

The

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GEOGRAPHICAL

MAGAZINE

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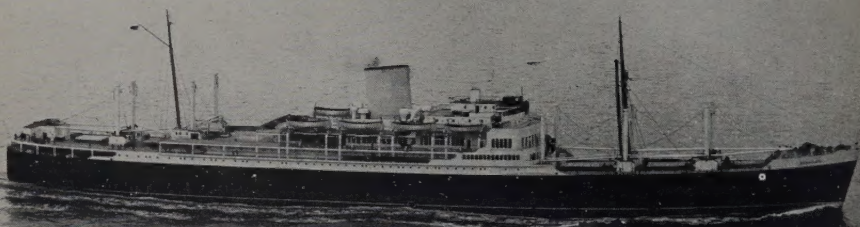
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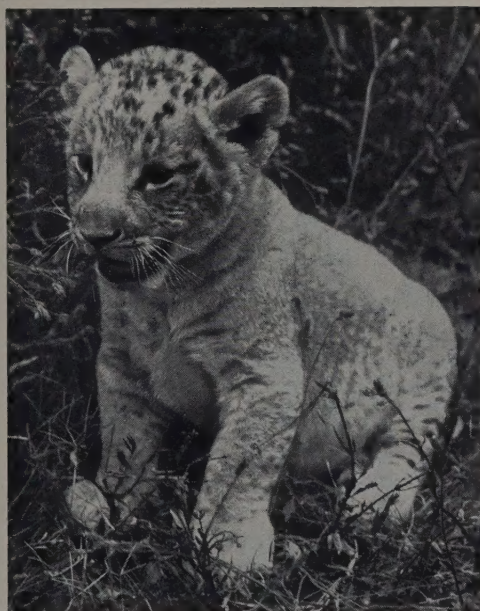
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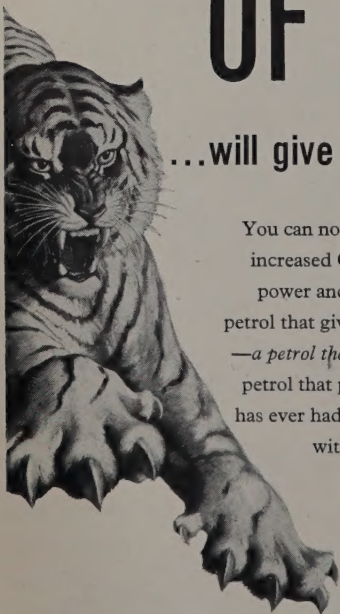
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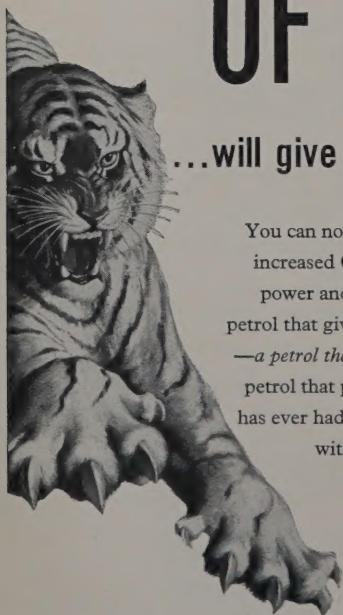
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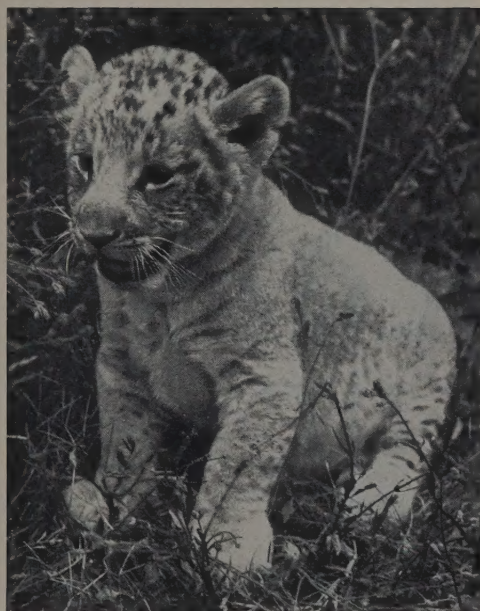
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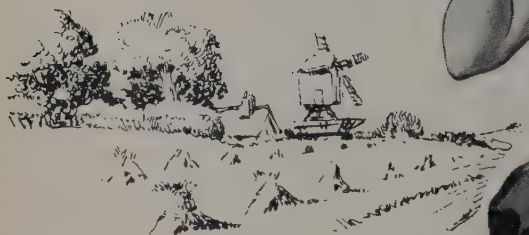
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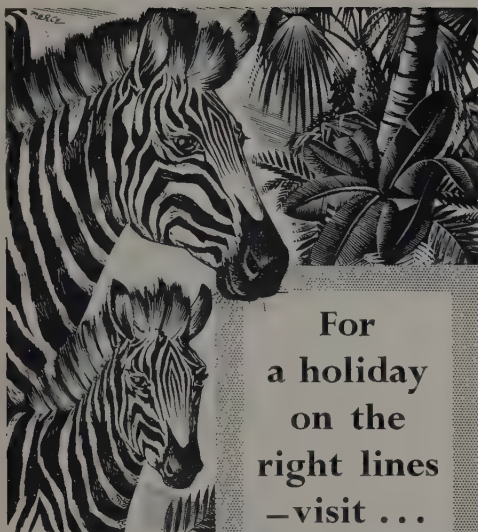
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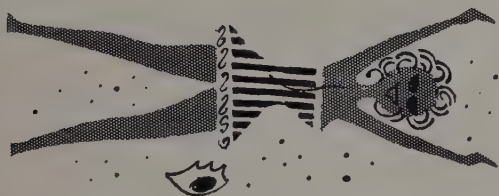
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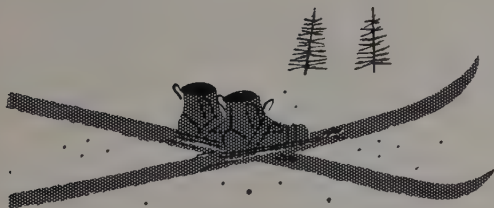
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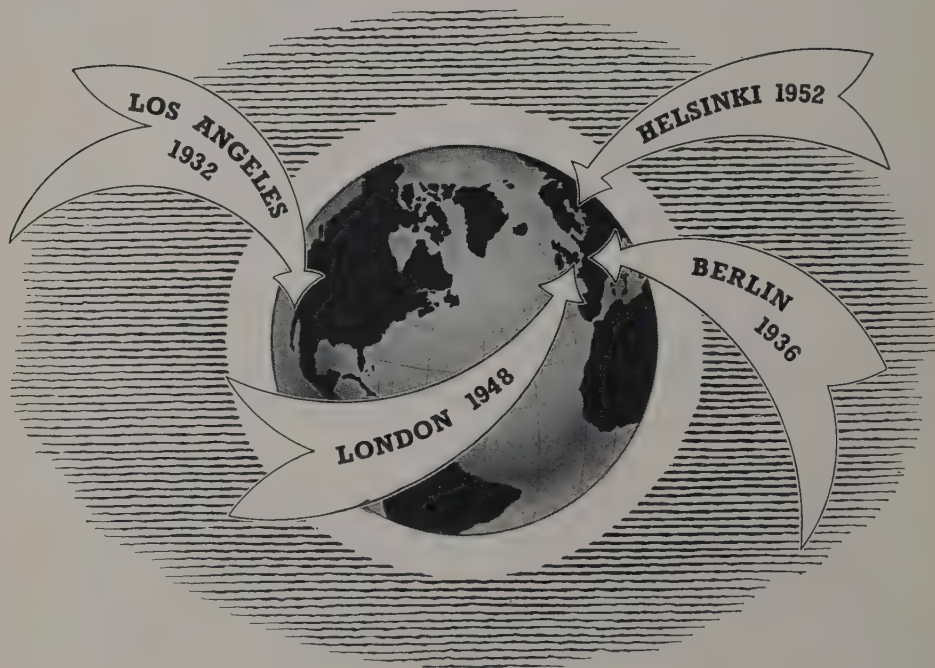
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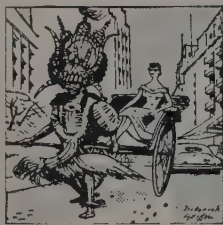
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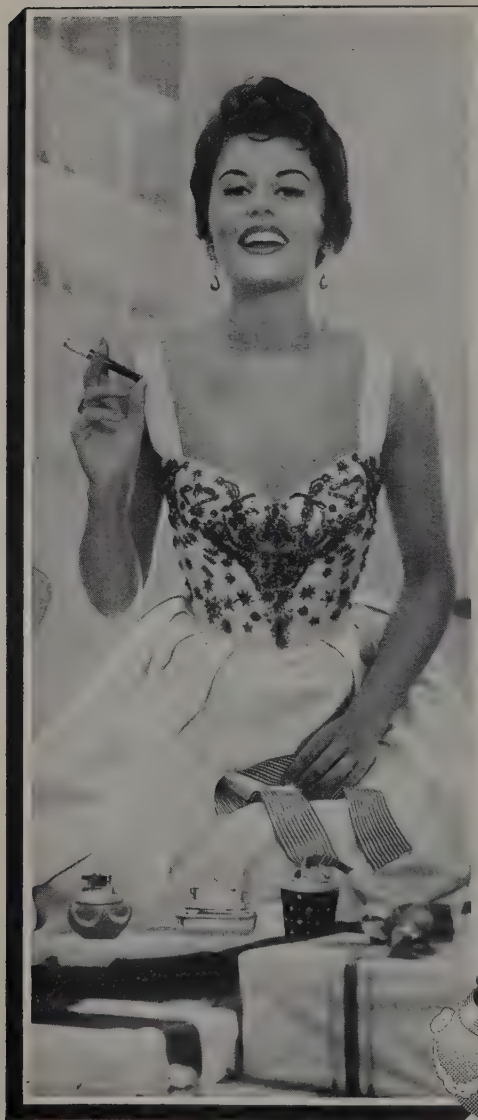
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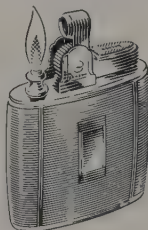


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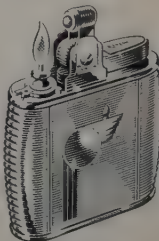
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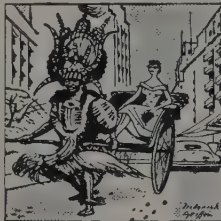
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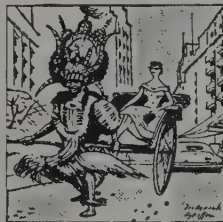
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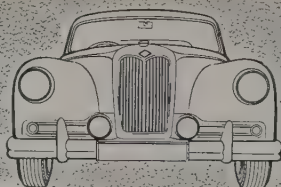
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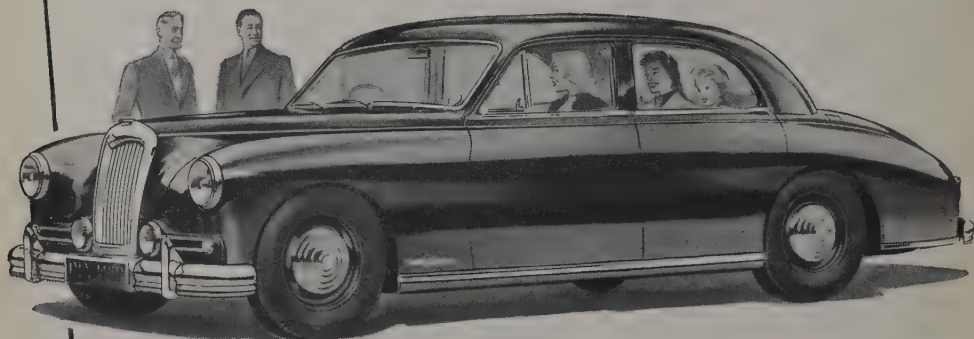


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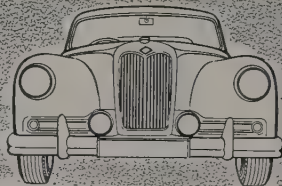
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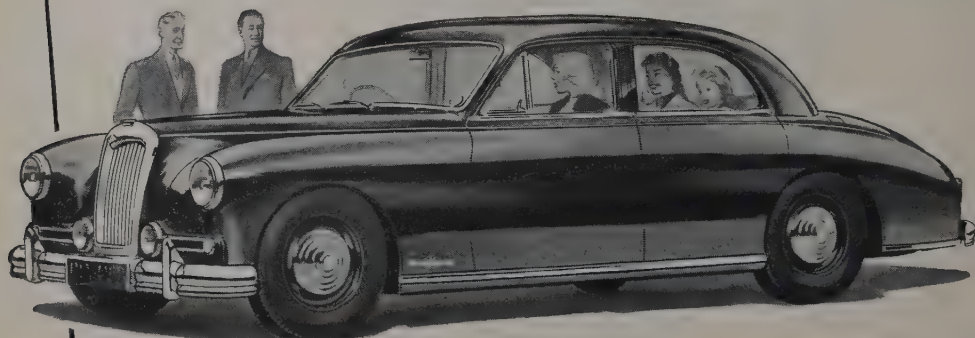
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Change of Ownership

Exercising an option given to them at the time when the Magazine was founded in 1934, the Trustees of the Geographical Magazine Trust Fund have acquired the whole of the shares held since then by the Publishers, Messrs Chatto and Windus Limited, hitherto the major shareholders.

Two consequences have arisen from this change of ownership. In the first place, the Magazine will in future be published by The Times Publishing Company Limited, through a subsidiary. Secondly, the Geographical Magazine Trust Fund, which until now has received half of all profits distributed by way of dividend or bonus, will henceforth receive three-quarters of such profits for the advancement of geographical exploration and research.



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Editor Michael Huxley Executive Editor Selwyn Powell Art Editor Derek Weber

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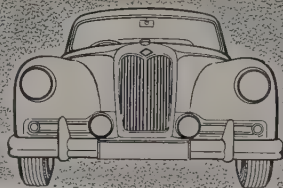
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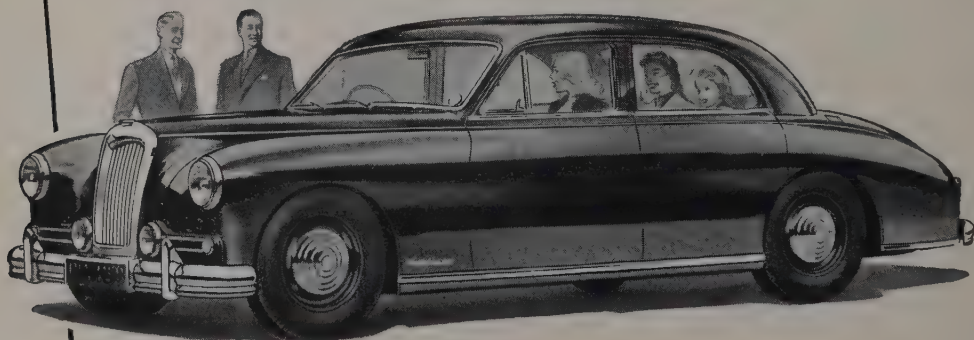
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Bird Migrants in Scandinavia

by ALAN DAVIDSON

The author describes, as he saw them in their summer homes, a number of birds on the British List which breed in Denmark, Norway, Sweden and Finland, whence they come to visit us in autumn and winter, after they have brought up their families. The accompanying photographs, by Arthur Christiansen, also appear in Mr Davidson's book A Bird Watcher in Scandinavia (Chapman and Hall)

MANY of the birds which visit our islands in autumn and winter have hatched in one of the Scandinavian countries, and to track down these species to their breeding places forms an interesting study. From observations made during some years' residence in Scandinavia, I propose to describe four separate types of terrain, where can be found some interesting British migrants in their summer quarters.

Starting in the south, the marshes and meres of West Jutland (the mainland of Denmark), which somewhat resemble the Norfolk Broads in character, are visited by much the same kinds of wildfowl, but in greater variety and abundance. Bitterns and Marsh Harriers are not rarities and the Ruff, Black Tern and Blacktailed Godwit, which no longer breed regularly in East Anglia, can be found in many places. Norfolk may score with the Bearded Tit, but Jutland can counter with the Little Gull and Gull-billed Tern, which reach here the north-west limit of their breeding ranges. The wide sheets of open water naturally attract large numbers of waterfowl, especially Grebes; whereas the Great Crested and Blacknecked nest in mixed colonies, the shy, graceful Red-necked Grebe, which regularly winters in Britain, prefers the seclusion of a small pool in the reed-beds. In late spring majestic Greylag Geese can be seen in family parties on the meres, swimming in line ahead like flotillas, the goose leading and the gander shepherding his goslings from the rear. Curiously enough, our familiar Dabchick is the rarest of the family over here. Among the duck family, the Garganey seems in some places to outnumber the Teal and nests in lush water-meadows, where the eggs are sometimes broken by the hoof of a fat Friesian cow. You will not have to visit many villages before finding one with a resident family of Storks, maybe on a gable or up a special post with a cart-wheel at the top to hold the nest. The partially afforested heaths of the interior are the home of Montagu's Harrier and Goshawk, while the Kentish Plover frequents narrow strips of shingle along the shores of the

brackish Limfjord, which separates the north part of Jutland from the mainland of Europe.

The long mountain range which forms the backbone of the Scandinavian peninsula supports many Arctic and sub-Arctic species, whose breeding range may in some cases extend northwards to Spitsbergen and the Taimyr peninsula in Siberia. The Snow Bunting and Dotterel, sparing breeders in Britain, share the mountain-tops with the Ptarmigan and Purple Sandpiper, while rarer autumn visitors to Britain like the Shorelark and Lapland Bunting, which breed sporadically in alpine conditions at 5000 feet and above in South Norway, become commoner as one progresses northwards up the central mountain range until finally they can be found nesting at sea level near the North Cape. That diminutive wader, Temminck's Stint, which has recently attempted to nest in Scotland, is a typical bird of the mountain marsh, breeding on damp moss sparsely covered with shoots of dwarf willow. These mountains are also the summer home of



A. J. Thornton



Photographs by Arthur Christiansen

A mere near the west coast of Jutland, breeding-place of the Bittern and Marsh Harrier, as well as of other birds which are now comparative rarities in the similar environment of East Anglia

many kinds of duck that frequent our inshore waters in winter, Wigeon, Scaup and Scoter nesting on the islands or in the undergrowth round the countless lochs. The birds of prey in these regions depend largely for food on the fluctuating population of lemmings (a tiny Arctic rodent); when these indulge in one of their periodic rushes to the sea, hawks and owls congregate in large numbers to prey on them, with the result that a true Arctic bird like the Snowy Owl will follow the crazy little creatures far beyond its usual breeding range and may nest that year hundreds of miles further south than its normal custom.

The forests and marshes of Swedish and Finnish Lapland are the accessible western edge of Siberian "taiga" country, which at these latitudes stretches eastwards in a continuous belt for thousands of miles. Some of the swamps between the Arctic Highway, which connects the Baltic with the Arctic Ocean, and the Russian frontier stretch unbroken to the horizon like vast green inland seas, while others are like man-made clearings in the coniferous forest; all are waterlogged but do not appear to contain dangerous bottomless holes and can be crossed by following

the narrow strips of dwarf birches which form a network across them. The musical yodelling of the Wood Sandpiper hardly ceases through the light June nights and each swamp supports many pairs of this far-travelling wader. Winter visitors to Britain like the Spotted Redshank and Jacksnipe may become commoner eastwards into Russia, although neither is rare in Scandinavian Lapland. However, the migratory routes of other species breeding in these swamps lie through Central and Eastern Europe, which may account for the rare occurrence in Britain of the Crane, Pine Grosbeak and Broad-billed Sandpiper. Some of the many Golden-eyes and Tufted Ducks escorting fleets of ducklings on the forest pools and the dark sluggish rivers which meander through these marshes may well appear the following winter on the reservoirs of Southern England.

From mid-June onwards the major hazard of the Lapland Marsh is the mosquito, which thrives in the damp, often thundery atmosphere. Sometimes the insect clouds in front of one's face are so thick that watching a bird through glasses becomes impossible; it always seems a windless part of the world,

(Right) A Black Tern alights beside its nest. This graceful bird, a summer visitor to the West Jutland marshes, breeds in colonies on the soft mud at the edge of the reed-beds. When they are disturbed the sitting birds rise together in a squeaking cloud to meet the intruder. Insectivorous, the Black Tern catches its food while hawking along the dykes that lead to the open mere. (Below) The Ruff in belligerent mood. On trampled grass mounds the Ruffs meet and indulge in fierce mock battles—



—while the Reeves stroll unheeding nearby. The birds' ruffs which vary in colour with individuals, from cream to dark red, disappear after the breeding season. Reeves conceal their nests in tussocks and sit tight until almost trodden on. (Left) A Greylag Goose about to brood. In north-west Denmark this goose frequents meres with reedy edges, building a substantial nest over water deep in the reed-beds



(Below) A loch high in that long range of mountains between Norway and Sweden which is the breeding-ground of many winter visitors to and rare nesters in Britain, such as (above) the Snow Bunting. This is a bird of the mountain-tops and the high screes, where it flits from rock to rock like a windblown snowflake, rising from time to time to utter its exquisite wild song. (Right) The male Dotterel brooding. A barren stony plateau over 3000 feet is the summer home of this beautiful bird; it can be delightfully tame and will allow itself to be stroked without leaving its eggs





(Below) In the forest and marsh of Finnish Lapland a common bird, which visits Britain on passage, is (above) the Wood Sandpiper. Noisy and restless, this wader belies its British name by nesting on open heaths. (Left) From the same breeding-ground there comes to us the Goldeneye, a duck which in Lapland uses nesting-boxes on lakeside trees, put there presumably to facilitate the collection of eggs and down. The boxes are set some distance up a tree and the duck has to land accurately into the hole, which can be impossible down wind in a gale; so addled clutches are not infrequent





An Osprey about to alight on its nest at the top of an old oak tree by the edge of a Finnish lake. This site has been occupied every year as long as the local inhabitants could remember



(Below) Looking northwards over the wilds of the high Finnmark plateau towards the Arctic Ocean. These upland marshes are the home in summer of such migrants as (above) Buffon's Skua, here seen hovering over its nest. The female of this pair soon became quite fearless and would alight on the author's head when he stood by the nest, which was beside the road leading to the North Cape





A pair of Bluethroats, inhabitants of the Finnmark plateau, near their nest in a roadside bank

so that there is no escape from these tormentors—rain does not deter them, they grow to like tobacco smoke, and only the rare breeze can bring relief. Deterrent oils can be bought locally, affording protection for some four hours at a time, unless the weather is hot enough to make one sweat; if applied with a liberal hand, the deterrent effect will last for a short night in a tent, and supplement the essential net.

The northernmost terrain to be described is the interior upland or plateau of Finnmark in Norway just south of latitude 70°, where the streams begin to flow north towards the Arctic Ocean. This is a wonderful spacious country of lochs without number, low cliffs and peaty pools with marshy edges. The land has a sparse covering of small birches and low willow bushes. The bare stony tops of the low hills are just above the tree limit and form an ideal habitat for that alpine bird the Shorelark; a few feet down the slope the willows begin to grow and Lapland Buntings sound their low musical pipe from the topmost branches. From midnight onwards the cock Bluethroat, in behaviour and habits a northern Robin, fills the countryside with its beautiful liquid notes. Velvet Scoter

and Long-tailed Duck nest round the lakes with firm rocky banks, while the marshy pools support a few pairs of the Red-necked Phalarope, one of our rarest breeding birds, and one pair each of the Red-throated Diver, sharing small islets in the middle with the Arctic Tern. An Osprey with slow-beating wings quarters the shallows of the larger lochs in search of surface-feeding char. The Ruff, last seen posturing in a field beside a Jutland mere, reappears up here more than 1000 miles to the north. The Common Redshank is even more of a surprise to one ignorant of its wide breeding range, but here it is outnumbered and overshadowed by the larger, noisier Spotted Redshank in its spectacular breeding dress of black spotted with white. Buffon's Skua, a winter visitor to British waters, nests here and there over this area, choosing a prominent peat tump on which to lay its egg or eggs. The white on the breast of the brooding bird makes it easy to spot a nest from the car while motor-ing along the only road. On the more remote lakes in the higher country to the east swim families of the Lesser White-fronted Goose, whose rare visits to Britain constitute an ornithological nine-days' wonder.

The Yugoslav Julians

by TOM WEIR



All Kodachromes by the author

Alpine meadows and pine forests pressed against limestone walls in the upper valley of the Sava

SOMEWHERE new and exciting, in people, scenery and mountains, was what I wanted for my holiday, and some words of Dr Longstaff led me to the very place, to the Julian Alps of Yugoslavia. This is what the author of *This My Voyage* answered when he was asked what he thought of them:

It is a fact that they have become for me, after 40 years' devotion to mountain scenery, the most desirable of all mountains. I want to revisit them more than I desire to see again any other region of the Alps: more than I desire to see again the frosty Caucasus, or Himalaya, or the mountains of Canada and Alaska, or the ineffable primrose light of the low sun on the fantastic peaks of the Arctic. I believe this feeling is greatly due to their surprising quality of mystery . . . By comparison the Dolomites are obvious.

Such a recommendation from so experienced a traveller guaranteed more than just a good mountaineering holiday. Imagination is never so stirred as when it is quickened by anticipation, so the first sight of the Julians, grape-blue against the glow of a fiery sunset, held me spellbound. They stood above the clouds, an incredible vision above near,

rain-blurred slopes, round which thunder grumbled.

As the train climbed through dark forests, chugging past lonely outposts of strip-cultivation where tiny fields of wheat were yellowing, my impression of Yugoslavia was of a wild, almost primeval land. Here among the pines, I was told, roamed bears, wild pigs, wolves and deer: a contrasting country to the neat fields and orchards of the fertile plain of Ljubljana—for limestone makes its frontiers dramatically; and the Julians, springing north of the university town, make a dramatic boundary with Italy and Austria.

Everything is telescoped in the Julians, rock buttresses, razor edges, wooded bluffs, so that there is virtually no Alpine zone with chalets as in Switzerland. As Longstaff puts it "The month's approach in the Himalaya is magically traversed in a day." Only the chamois can find footing on the middle slopes for these are of rock, and this is the finest chamois country in Europe. From the railway line at Ratece (approximately 3000 feet above sea level) the walk through a forest of magnificent pine trees to an Alpine zone of dwarf conifers and red *Alpenrosen* occupies



A village in the Trenta valley whose inhabitants have not relinquished their Slav speech or customs despite centuries of foreign domination

only an hour and a half. Red-backed shrikes and black redstarts were the commonest birds there.

Never having seen a chamois before, it was a pleasure when going down to the river for a bathe to meet one posed on a rock, slender antlers raised and every muscle of its fawn body, tipped with ebony along the spine, alert. Yet it didn't bolt, but merely sprang to a more inaccessible ledge to take another look before disappearing for ever.

Girdling these mountains is a splendid chain of mountain huts, and that night I had my introduction to my first one with three Slovene alpinists who had befriended me in Ljubljana. We shared a little bedroom and had a simple meal of macaroni soup and a large plate of plain macaroni, with tea to follow; plain fare, at a cheap price, but my new-found friends had come prepared and supplemented these scanty rations with sausage, bread and cheese. One can go anywhere in the Julians and be sure of food and shelter at a cost of less than 8s. per day, for climbing is the national sport of the Slovenes, and out of a population of less than 2,000,000, no fewer than 65,000 are members of the Alpine Association.

Triglav is the highest peak in the Julians. It is a fantastic mountain, the Ben Nevis of Yugoslavia, and everyone wants to know if you have climbed it. Legends cluster round it and dreamy-eyed climbers sing songs to it in every hut. Red paint-splashes cross the passes to it; it is situated in the midst of what Longstaff describes as "... a typically Tibetan desert; huge rounded slopes and hollow basins leading to the naked cliffs of a lunar landscape; not a tree; hardly a plant; lifeless."

We went to it from the green fertility of the Trenta valley beloved of Dr Julius Kugy, who wrote largely of the Julians in one of the best books of Alpine literature, *Alpine Pilgrimage*. From this beautiful glen we swung into a cirque of peaks blocking the head of the valley like a battlemented wall, wondering as we climbed how we were going to breach this face defending our peak.

Actually there was a choice of two ways: by a rock climb up the wall and over the battlements, or by an amazing path blasted and engineered out of an easier part of the mountain. Bomb- and

bullet-holes and coils of rusty wire told the story of that path. We were on the old frontier between Italy and Slovenia, and the track led to an abandoned military post round which there had been much fighting. The Trenta valley where we had come from was under Austrian domination for many centuries except for a period between the two World Wars when it was ceded to Italy. Beloved Triglav and all its environs is now Slovene territory.

That night we stayed in a new mountain hut perched 7000 feet up, commanding a wide sweep—range on range of saw-toothed peaks and ridges, changing colour from steel-grey to blue-black, as high masses of clouds from the Adriatic drifted round them, investing them with mystery and huge bulk out of all proportion to their 9000-foot size. Our hut had been rebuilt because a winter avalanche had destroyed the old one, and I had a chat with one of the young joiners working on it. He spoke not only English but Russian, German and Italian as well; and his intention when his day's work was over was to go up to the top of Triglav for the sake of the view. His ambition in life was to visit the high Alps of Switzerland.

We were somewhat unlucky with weather on Triglav and its associate peaks, but the impression of fantastic wildness of this glaciated desert was perhaps heightened thereby. Rain and mist swept the tops, but there were sudden clearings and astonishing revelations of



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A path in the Ćiljans leading up the sheer mountainside from the fertile Trnava valley to the "Tibetan desert" of Triglav



mountain edges set above the green ice of Triglav's 5000-foot north face which gives the longest rock climb in Yugoslavia, and boasts its only glacier.

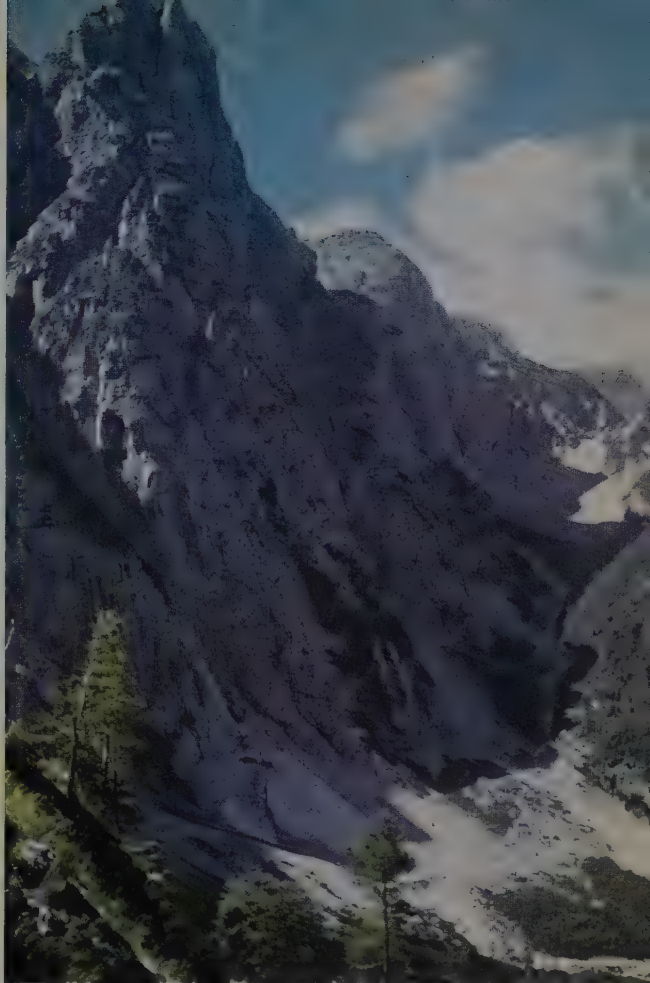
Every peak we climbed brought its own reward. Triglav is only 9395 feet high, but in getting to it we had moved through scenery of astonishing contrasts, from fertility to desert. We were to see an even more amazing change when we crossed the bare Hribarice Pass plunging down slope after slope of desert rubble to find ourselves suddenly on a shelf of spreading pine trees, stolen, as Longstaff so nicely puts it, from the Canadian Rockies. "A waste," he says, "but how beautiful, of rolling limestone levels covered with open forest of pine. How could one expect such a piece of western America in Europe?"

This is the "Valley of the Seven Lakes"—tiny lakes, each of which nestles on its own shelf of pine trees, for this landscape of the Rockies is in a series of great and complex steps, and I found it hard to appreciate that by merely crossing its enclosing edge I could exchange my present surroundings for the Alpine pastures of the Trenta valley.

What a place for skiing and mountaineering this must be in winter for adventurous men! But the weather would have to be good, for route-finding is so complex that the stranger is glad of the paint-splashes guiding a way down to a lonely hut perched under the peak of Ticarica.

Scotch mist and rain had dogged us on the descent, but we were to see what Julian rain was like in the next twenty-four hours when it fell in monsoon torrents, and the hut filled up with Slavs driven in from all parts to shelter. Soon we were all friends together, and with songs and stories the time quickly passed. All were eager to hear about life in Britain and to give their views on Yugoslavia. German proved the most useful common language amongst us.

A bright morning followed the rain, and in the space of an hour or two from leaving the hut we were to have our greatest surprise of the trip, when suddenly we stepped round a



Where rock walls give way to the limestone shelves of the Valley of the Seven Lakes, each shelf cradling a patch of forest in a way more resembling western America than Europe

corner and found ourselves looking, not into another hidden shelf, but down a sheer mountain wall to a large lake cradled 2000 feet down—the Bohin Lake. The surprise of this left one almost breathless with astonishment.

Down the mountain face goes a zig-zag path, safeguarded by wooden steps and handrails, twisting down to a ravine formed by the waters of the Savica river where they thunder out of a hole in the cliff and plunge in a mighty waterfall after a long subterranean course.

Here the "Tibetan desert" of Triglav and its lack of rivers is explained. All the waters



Slovene mountaineers among the fantastic hollows and "naked cliffs of a lunar landscape" that surround Triglav. The hut in the background is typical of many for climbers in the Julian Alps

on the heights percolate deep into the limestone to form an underground torrent which travels for miles before it suddenly bursts forth in this fierce jet. We followed the course of the river to its end in Bohin Lake where we bathed—a perfect finish to a memorable day.

But we were not yet finished with the Julians. There was one other place we wanted to see before we left these peaks, and that was Martuljek. Longstaff had said of it: "Is there anything else in all the Alps, including the whole range of the Julians, comparable to the hidden mystery of Martuljek?" Such a question deserved to be answered, for if it was finer than what we had seen already, there could only be one answer.

A short railway journey by Lake Bled and northward from Jesenice and we were there, on a sparkling morning, among meadows which wound to pine trees enclosing a gorge; beyond this was a fierce pinnacle called Speke. By tumbling waterfalls and broken rocks edged with pines we climbed, losing the path and finding it again; side-stepping to avoid coiled adders asleep on stones; or stopping to watch a sparrow-hawk describe a rapid loop

in pursuit of a small bird. In the cool of the forest we brewed coffee on a wood fire.

Then came a moment when suddenly there were no more obscuring trees and ahead of us rose walls of rock, 3000 feet sheer, splintered grey against blue sky.

This was where Longstaff had made his bivouac, feeling himself "... as cut off from the world as any anchorite". We had no bivouac and had simply to treasure the few hours spent among the dwarf scrub and the flowers, with the forest and gorges below, and above us peaks secret and brooding, almost overwhelming in their steepness.

It was the vision of the Julians to leave behind, for this region has been kept as a kind of wild national park. There is one little log cabin for climbers but nothing in the way of equipped huts. Here are no fixed ropes or cables or splashes of paint as in other parts of the Julians. A man is alone with the mountains, and the rock climbs here must be amongst the finest in Europe. Let me recommend that you visit Martuljek if you go to Yugoslavia and are a lover of mountain scenery.

Coins and the Growth of the Roman Empire

by PROFESSOR MICHAEL GRANT, O.B.E., LITT.D.

In this and two succeeding articles Professor Grant of Edinburgh University exemplifies various aspects of the study of coins as an aid to the geographical interpretation of history, taking his illustrations from the coinage of Rome, the Empire and peripheral countries. He is President of the Royal Numismatic Society and his published works include Ancient History (Methuen, 1952), Roman Imperial Money (Nelson, 1954) and Roman Literature (Cambridge University Press, 1954)

UNLIKE most modern states—including our own—the government of the ancient Romans very frequently changed the designs on its money. The citizenry and subject peoples had not so much to look at as we have. So the authorities evidently decided that people looked at their coinage, and therefore took pains to make it interesting and edifying—for centuries. Thus the coins provide an extraordinarily important range of information and suggestions about Roman official policy.

Regarded as a geographical unit, the Empire was of unprecedented importance and complexity; and its history can only be understood with the eyes of a geographer. To the historical geographer, the coins are very illuminating. Time after time their designs convey geographical implications which confirm or supplement what the ancient writers have to tell us. In these three articles I want to give examples. In the first, I shall illustrate certain coins reflecting the triumphs and aspirations, and sometimes setbacks, of the Romans in their creation of the Empire.

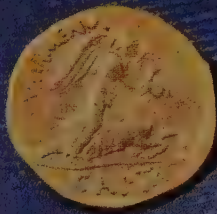
The political use of coin-designs did not develop its full flexibility and skill until, under Augustus (31 B.C.-A.D.14), the Republican regime had finally given way to the rule of Emperors. But it was in the Republic that Rome grew from a city-state to a huge Mediterranean power, and the coinage does not fail to reflect its growth. Fig. 1 shows one of the first Republican coins to bear the name ROMA. Above it is the city's patron-deity Jupiter, who drives his chariot, accompanied by Victory. And indeed Victory was much needed, and won in spectacular fashion; for these coins seem to have been inaugurated between the first two Punic Wars, by which Rome eliminated Carthage from imperial and commercial rivalry. The weight of the coin, as well as its design, is of significance to

geographical historians. Somewhat as we, in our colonies, issue money in local rather than British denominations, these silver pieces were struck on a standard which facilitated trade with the rich commercial Greek cities of South Italy (and they, too, sometimes depict this same two-headed god on their own issues). Indeed it is generally believed that these silver pieces, despite the word ROMA that they bear, were issued not in Rome but somewhere farther south.

For the central areas Rome had a second currency, not in silver but in heavy bronze, which the peoples in those territories required. Here, too, there was still enough autonomy for smaller, local coinages to coexist with Rome's. Just as there remained many nuances in the exercise of Roman authority, so there were gradations of independence in the currencies. Those of eastern Italian towns are based on a pound of different size from Rome's. Near the Tiber, however, and down



A. J. Thornton



British Museum

Sometimes, on the coinage of imperial Rome, references to far-off regions were friendly and peaceful. But often the tone was predatory; for emperors liked to commend themselves to their people as conquerors. Here coins of 20-19 B.C., A.D. 107-11 and A.D. 71 boast of three territories as conquered. (Top) Augustus commemorates the 'capture' of Armenia (gold); (centre) Trajan's bound Dacian with native spoils record Rome's furthest expansion into a country which bears her name today, Rumania (silver); and (bottom) Vespasian celebrates the suppression of the First Jewish Revolt (brass)

to Naples, Rome's pound was already employed, as on Fig. 2 of Tudor (Todi) in southern Umbria (. . . = 4 Roman ounces, 1/3 pound; but this coin is much debased).

Long afterwards—as late as 90 B.C.—central Italians became so discontented with Roman rule, or rather with their exclusion from the privileges of its citizenship, that the peninsula was rent by a terrible civil war, only terminated by Roman concessions. The capital of the insurgents was at Corfinium (near Pentima, east of Rome) but the outbreak started farther north at Asculum (Ascoli Piceno), and Fig. 3 shows a coin which they issued in that region. It displays the confederates swearing loyalty to their cause over a pig.* This traditional design was borrowed from Roman coins; but how particularly shocking to Romans must have been the slogan ITALIA, here appropriated by their enemies. Italy was only just becoming a geographical and emotional entity. It was later in this same first century B.C. that the word gained its Roman spiritual overtones, in the works of Virgil and Livy, who came from Mantua and Padua in the recently incorporated borderland of the country. Yet, as this coin shows, only a few years before their birth there had been two Italies. In the latter stages of World War II this happened

again, when both the Monarchy and the 'Social Republic' claimed to be *Italia*.

When her allies rebelled in 90 B.C., Rome already controlled most of the Mediterranean. But one country which, nominally conquered, long remained a storm-centre was Spain. The situation there became exceedingly grave when one of Rome's finest officers, the Sabine Quintus Sertorius, outwitted by the dictator Sulla, raised a large army and maintained an independent regime for nearly ten years (82-72 B.C.). His capital was at Osca (Huesca), in the centre of a wealthy coal-mining area to which many Roman eyes were turned. Fig. 4 shows a coin issued early in this period and clearly referring in some way to these events: for the head is labelled "Spain" (HISPAN[ia]). During the Republic the national coinage was signed by moneyers, and this series was issued, we see, by a certain Aulus Postumius Albinus, son of Aulus, grandson of Sextus (A[ul]i F[ili]us S[exti] N[epos]). We do not know who he was. But the head is significant, for it shows Hispania veiled, with dishevelled hair—in traditional guise of distress. Is this compassion for a country rent by war? Possibly to some extent. But the more brutal interpretation of "a country successfully reduced to subjection" is perhaps more in keeping with the





(Fig. 1) Silver coin (double drachma) issued in the name of Rome, later 3rd century B.C. Two-headed god Fontus; Jupiter in chariot



(Fig. 2) Large bronze coin of Tudor (Todi) in Umbria, 2nd century B.C. Hand in boxing-glove; clubs. ($\frac{1}{3}$ As)



(Fig. 3) Coin issued in east central Italy by insurgents in Social (Marsian) War, 90-87 B.C. Confederates swearing oath on sacrificial pig. Silver denarius



(Fig. 4) A. Postumius Albinus (c. 79 B.C., ? North-west Italy), depicts Hispania. Reverse: figure in toga with fasces and standard. Silver



(Fig. 5) M. Aemilius Lepidus (c. 78 or 66 B.C.?), depicts Alexandria. Reverse: an ancestor places wreath on head of Egyptian boy-king. Silver



(Fig. 6) Julius Caesar (51-49 B.C., North Italy) shows Gaulish spoils and prisoner (Vercingetorix?). Silver



(Fig. 7) Roman citizen colony in Asia Minor (perhaps Lystra?) portrays an unknown proconsul, M. Rutilus (c. 44-3 B.C.). Bronze



(Fig. 8) Q. Labienus (41-39 B.C., South-east Asia Minor), Roman renegade to Parthia. Silver; also gold



(Fig. 9) Antony (c. 33-1 B.C., ? West Asia Minor) strikes in honour of one of his legions (LEG[ionis] XII ANTIQVAE). Silver, somewhat debased



(Fig. 10) Antony (c. 32 B.C., ? Ephesus) and Cleopatra as "Queen of Kings and of her Sons who are Kings". Antony records the 'conquest' of Armenia. Silver



(Fig. 11) Augustus (20-19 B.C., ? Pergamum) invests a diplomatic deal over Armenia with martial glamour. Gold



(Fig. 12) Nero (c. A.D. 64), depicts Roma in martial, Minerva-like pose. S.C. stands for senatus consulto, "by decree of the senate". Brass

spirit of those times.

At the other end of the Mediterranean, Egypt was still nominally independent under the descendants of Ptolemy, general of Alexander the Great after whom the country's great capital was named. Egypt was enormously wealthy. It had not yet been annexed because the Roman ruling class feared it might become a base for too powerful a governor. Yet in 80 B.C. the dictator Sulla "intended to gather in Egypt", as M. Cary remarks, "by the same policy of 'lapse' which Lord Auckland applied to the native kingdoms of India". Annexation only came fifty years later—after Cleopatra—but it was already in the air. Fig. 5 is a coin issued in the seventies or sixties B.C. on behalf of the state by a great nobleman, an Aemilius Lepidus. The head is a 'personification', such as the Romans loved, of Alexandria. Why? Because, as the other side of the coin explains, in c. 203-1 B.C., an ancestor, the Chief Priest (PONTIF[ex] MA[ximus]) of Rome, had been appointed by senatorial decree (S[enatus] C[onsulto]) guardian of the young King of Egypt of the time (TVTOR REG[is]). The implication (not unknown today) seems to be that 'intervention' had long been respectable, and the Aemilii had played a distinguished part in it. But perhaps today more might have been made of the fact that their ancestor had been 'invited' by Egypt, as he apparently was.

When Egypt was still not yet Roman, and before he had met its queen, Julius Caesar conquered northern and central France, largely for careerist reasons, with a great deal of brutality. Fittingly, Fig. 6 shows Roman conquest at its toughest. There is a trophy of captured arms, and a Gaulish prisoner: it is tempting to call him Vercingetorix, who led the last resistance culminating at Alesia (Alise-Sainte-Reine). Numerals beside the head on this coin (LII) show that Caesar was fifty-two years of age when he issued it. Probably this military design was issued in North Italy for the troops whom he was about to lead across the Rubicon on January 10, 49 B.C.

After that mighty upheaval, the murder of Caesar caused another. The Roman world was torn between his heirs (themselves soon to quarrel) and his assassins. Anarchy produced semi-independent *condottieri*. One of them, otherwise wholly unknown, is unprepossessingly portrayed in Fig. 7. His head is named; he is M[arcus] RVTILVS. He calls himself, PROCOC[us] S[ul], "governor"; but his portrayal suggests that his link with cen-

tral authority was weak. Rutilius must have backed the followers of Julius, for the coin was issued by a 'Julian' colony (COL[onia] IVL[ia]), i.e. a settlement of the late dictator's demobilized troops. It is difficult to place Rutilius exactly, but the issue seems to belong to war-torn Asia Minor, and I have argued elsewhere that it belongs to Lystra (Hatunsaray), later visited by St Paul. Such portrait-coinages are comparable to those of Chinese war-lords early in the present century.

An older generation of Romans may have been shocked by ITALIA on rebel coins, but most shocking of all must have been Fig. 8, for it depicts not merely a quasi-independent war-lord, but a renegade: Quintus Labienus. When Caesar's assassins met their end at Philippi in 42 B.C., Labienus fled to the national enemy, the Iranian feudal kingdom of Parthia (Iraq and Persia). Though loosely organized, this country had only eleven years earlier inflicted a terrible defeat on Rome at Carrhae (Haran). It had done so by means of its famous light cavalry, of which Labienus insultingly shows a specimen on this coin. The son of a distinguished general, he too was of greater military ability than most of such 'deserters' beyond modern iron curtains. Based on Cilicia (south-east Asia Minor)—where these coins were perhaps minted—he was not suppressed until he had overrun the peninsula to its western areas; and with the prosperity of that country, said Cicero, "the credit of the Roman money-market is intimately bound up". The hostility of Labienus to Rome is emphasized by his self-description as PARTHICVS—not "conqueror of Parthia", but "friend of Parthia"; and IMPERATOR—not "Roman commander", but "commander against Rome".

It was a general of Mark Antony who defeated him. Antony, as *triumvir*, now ruled the eastern provinces. His legions, disposed about them, were celebrated one by one on a great series of coins (Fig. 9). Though these pieces proudly show a Roman troop-carrying warship, the fleet on which he depended, and which let him down against Augustus at Actium (31 B.C.), was Cleopatra's. To the disapproval (no doubt) of his army commanders, who hated her, she herself appears with him on Fig. 10. Did he and she, or she alone, or neither of them, intend her to become ruler of the Roman world? Or did she only want to augment her own Egyptian kingdom? Controversy on this point is ceaseless.

Antony's head, on Fig. 10, is accompanied



(Fig. 13) Tiberius (c. A.D. 22-4) commemorates "the divine Father Augustus" (*DIVVS AVGVSTVS PATER*), and the Victory which was his talisman. She holds a golden shield dedicated to him, for his virtues, by the State (*S.P.Q.R.*). Brass



(Fig. 14) Constans (A.D. 337-50), a Christian, defines his victorious role as "conqueror of barbarous nations" (*TRIVMFATOR GENTIVM BARBARARVM*). Issued at Thessalonica (Salonika), mintmark *TES*. Silver



(Fig. 15) Claudius (c. A.D. 41) portrays his late father Drusus (*NERO CLAVDIVS DRVSVS GERMANICVS IMP[erator]*), honouring his 'victories' over the Germans, whose arms are shown (*DE GERMANIS*). Gold (also silver)



(Fig. 16) Galba (A.D. 68-9), striking at Lugdunum (Lyon), depicts himself receiving the Palladium, symbol of eternal Rome, from Hispania, with special allusion to Clunia (upper Douro), where he received the invitation to be emperor. Brass



(Fig. 17) Otho, during his three-month reign (A.D. 69), appears on this provincial 'token' coinage of Egypt, with Greek inscriptions. On the reverse is the head of Alexandria. Base alloy (billon)



(Fig. 18) Otho hopefully depicts Peace, with olive-branch and serpent-staff indicating Prosperity. The inscription is "Peace throughout the world"—when the Empire was rent by Civil War. Gold (also silver)



(Fig. 19) Vitellius, Emperor for eight months in A.D. 69, celebrates his 'Victory' as "the Victory of the Emperor from Germany" (VICTORIA IMP[eratoris] GERMANICI), i.e. the nominee of the legions on the German frontier. Gold



(Fig. 20) A shekel issued by the Jewish insurgents, "the first truly national coinage of Israel". "Year 1" (A.D. 66-7). Hebrew inscription. Types: chalice, stem with three flowers. Base silver



(Fig. 21) Vespasian (A.D. 69-79) records "Judaea conquered" (IVDAEA CAPTA), after the suppression of the First Jewish Revolt. Brass



(Fig. 22) Trajan (A.D. 98-117) commemorates an outstanding engineering feat: the construction of a bridge across the Danube to conquered Dacia (Rumania). Brass



(Fig. 23) Hadrian here portrays himself addressing the great Roman armies. This is "the army in Syria" (EXERC[itus] SYRIACVS). Brass



(Fig. 24) Hadrian (A.D. 117-38) honours the provinces on his coinage. Here is Britannia, vigilant against northern invaders, her foot on a piece of hilly territory (or the Wall?) Brass

by the Armenian royal tiara and the words ARMENIA DEVICTA—"Armenia conquered". The mighty Armenian mountains, with their ill-defined frontiers, were for centuries a bone of contention between Rome and Parthia, as they have been in modern times between Turkey and Russia. Repeated attempts by both the ancient empires to establish durable puppet regimes failed. One of those who tried was Antony, who 'conquered' the country in 34 B.C. He celebrated a triumph (at Alexandria!—this shocked Romans), but this emphasis on conquest barely concealed a terrible retreat from the same country two years earlier, which cost him more legionaries than he could afford. At least, unlike Napoleon after Moscow, he had a chance to improve appearances later.

Actium in 31 B.C. gave Augustus sole control. But he did not put his generals to the supreme test of Armenia. Instead, through his step-son Tiberius, he tried diplomatic negotiations with Parthia. This achieved a solution. But Augustus felt—it seems from Fig. 11—that Roman public (or senatorial) opinion must be presented with a victory; for he inscribes his coins ARMENIA CAPTA, "captured", or RECEPTA, "captured back". Again the solution was sadly impermanent. But, after military conquest had persistently and expensively failed, the much-maligned Nero again tried diplomacy. It succeeded (to the accompaniment of superb coinages, e.g. Fig. 12 celebrating ROMA) and created stability for decades.

Though Augustus himself was no warrior, his generals and admirals (loyal subordinates) achieved solid successes and added to the Empire not only Egypt but the vital regions between Alps and Danube, and south of the lower Danube. A large tract of central Asia Minor too was annexed after the death of its dependent monarch, and called the province of Galatia. 'Victory' was the talisman of his propaganda (Fig. 13, posthumous). All his successors wanted to inherit the claim: he bequeathed to them the warning not to expand further. Yet, three centuries later, when barbarians were pressing the Empire, the Christian Constans still defines his role as "triumphant over barbarous nations", TRIVMFATOR GENTIVM BARBARVM (Fig. 14), to "make the bounds of freedom wider yet"—if the claims of Rome to provide greater freedom are admitted!

Augustus' second step-son, Drusus the elder, not only shared in the conquest of Bavaria and Austria but made four attempts to advance the northern frontier beyond the

Rhine. On Fig. 15 his son Claudius, fifty years after the death of Drusus, commemorates his father's German trophies (DE GERMANIS). The first stage was to be the Elbe—not itself a good frontier, but on the way (was this dreamt of?) to the Vistula, and beyond. Drusus reached the Elbe, but then he died; and Germany beyond the Rhine never became a province—no doubt to the regret of the amber-market in Rome (which it supplied) but also with grave, incalculable results for Europe. Roman hopes were finally eclipsed by the disaster in the Teutoburgerwald (A.D. 9)—somewhere between middle Weser and upper Ems—which caused Augustus, walking alone at night, to cry "Varus, give me back my legions!"

Provincial affairs took on a new aspect when Augustus' dynasty came to an end. Nero's violent death in A.D. 68 instituted the harrowing "Year of the Four Emperors". It was rapidly and painfully learnt, by those who did not surmise it already, that provinces were not merely conquered territories but were countries with Roman governors who could supplant emperors chosen at home. On Fig. 4 Hispania was dishevelled and distressed; Fig. 16 shows her proudly standing (her name is hardly visible on the left of this worn specimen) before Nero's successor Galba (A.D. 68-9), and bestowing on him the statue of Minerva (*Palladium*) which symbolized Eternal Rome. For it was from Spain, and with Spain's legions, that Galba had marched to Rome; and it was at the Spanish town of Clunia (upper Douro), specifically mentioned here, that he had waited until news came that he should leave for Rome. But there is nothing 'separatist' about this coin; it honours the provincial garrison—Roman and Spanish soldiers alike—who brought Galba to the Roman throne.

After a very few months he was murdered by Otho. His coin (Fig. 17) recalls by its Greek, not Latin, inscription that there were great official coinages adapted in this way to eastern needs. This is a base-metal token currency intended for that wealthy country whose riches emperors kept for themselves, Egypt. So its head labelled (in Greek) "Alexandria" bears a different meaning from the similarly named head in Fig. 5; the present coins were actually designed for circulation in Alexandria.

But Otho's reign, too, only lasted a few months, despite the ludicrous wishful thinking, easily paralleled in modern slogans, of his "Peace throughout the world" (PAX ORBIS TERRARVM; Fig. 18). Stoic teachers of

Cicero had equated "the world" with the Roman Empire, and "the brotherhood of man" with the Roman society. But the Roman world was not at peace under Otho. He succumbed to the equally short-lived Vitellius, whose coins (Fig. 19) recall an unpalatable lesson learnt by the Senate: that nominees of the provincial armies could become emperors regardless of its wishes. Victory here is not called, as usual, "the Victory of the reigning Augustus" (Victoria Augusti) but "the Victory of the Commander in Germany" (VICTORIA IMP[eratoris] GERMANICI); and beside his head again is the name GERMANICVS. This designation had first been given after death to Drusus (Fig. 15) because he had, allegedly, conquered Germany; now it means the nominee of the legions stationed in that country.

But it was the legions of Palestine which provided the successful contestant, Vespasian (A.D. 69-79). A formidable Jewish revolt (striking its national coinage, Fig. 20) had given him his chance of military power; and when he reached Rome this success provided him with a famous geographical coin-type, "Judaea conquered" (IVDAEA CAPTA) (Fig. 21). The palm-tree symbolizes Judaea, as it once stood for India on our own coinage; and earlier types of dejected country (Fig. 4) and trophy (Fig. 6) have culminated in a new, formidable, artistic theme: the captive province.

Trajan, the greatest imperial aggressor (A.D. 98-117), for a brief moment pushed the eastern frontier to the Persian Gulf, including nearly all of Mesopotamia. But a more durable achievement—and for once a military operation which immediately paid its

way—was his conquest of Dacia (Rumania). Roman conquests were only held by superb road- and bridge-building, and on Fig. 22 Trajan reminds us how vital this engineering was. For this seems to be a bird's eye view, or symbolic sketch, of his great nineteen-pier bridge over the Danube into Dacia, near Drobetae (Turnu-Severin). Here a coin admits us to the mechanics of Roman geography; and we can think of the great military roads behind the bridge—and far beyond it, to Porolissum (near Debrecen).

All this, and the Emperor too, depended ultimately on the Roman army. Coins tactfully refrain from speaking of the great monetary bonuses which rulers lavished on them (and especially on the Praetorian Guard at home). But Trajan's successor Hadrian fittingly issued a series of coins commemorating most of the major armies of the empire. One of them is the army of Dacia, the EXERCITVS DACICVS. Fig. 23 shows another, the army of Syria, EXERC[itus] SYRIACVS: the Emperor, a great traveller, is on horseback addressing his legions. Surprise has been expressed that these armies, with their enormous potentialities of revolt, could thus separately be celebrated; but Hadrian, as my next article will suggest, had a new conception of empire. For one thing his policy was not aggressive, like Trajan's, but defensive. Nor was he afraid to suggest that the provinces themselves should help in their own defence. Fig. 24 displays BRITANNIA not just resting passively, behind her new wall, but watching, vigilant—in her own national costume and arms—over her northern hills: or, it may be, over Hadrian's Wall.

The author wishes to acknowledge his gratitude to the following for the illustrations: British Museum: Figs. 1, 2, 4, 5, 7, 9, 10, 11, 15, 17, 18, 20, 23. Messrs Glendining and Co., H. P. Hall sale II, 1950: Figs. 19, 21, 24; L. A. Lawrence sale I, 1950: Figs. 3, 8; V. J. E. Ryan sale V, 1952: Figs. 6, 16, 22; J. C. S. Rashleigh sale I, 1953: Fig. 14. Ashmolean Museum, Oxford: Figs. 12, 13

My Worst Journey—XI

by F. D. OMMANNEY

The present article continues a series in which some of our more distinguished contributors place their memorably abhorrent journeys in scales of badness that they have chosen for themselves. Among all the rough weather that Dr Ommanney has encountered on his many voyages in many seas, he reached the nadir of discomfort in a small vessel waltzed by a young cyclone through the part of the Indian Ocean which he has described so well in The Shoals of Capricorn (Longmans, 1952)

THE Chagos Islands lie about 800 miles due east of the Seychelles and are, in fact, a continuation of the Maldives south of the Equator. Like most of the islands that are scattered over the western Indian Ocean they are knobs and plastrons of sand, surrounded by coral reefs and crowned by coconut palms. Some are totally submerged, having either sunk beneath or not yet risen above the surface of the sea. For half the year, from April to October, the South-East Trade winds blow upon these remote and lonely islands, which are dependencies of the colony of Mauritius, and therefore British. The coral reefs are lined with white breakers during this season and the coconut palms bend before the warm wind, rattling their plumes. The rest of the year is the time of the North-West or "Cross" Monsoon when the islands are in the zone of the doldrums. This is the belt of rising air that encircles the globe in the region of the Equator, a zone of glassy calms and sudden torrential showers that empty themselves out of huge piled-up clouds. The sea laps the coral reefs with soft warm tongues and all the islands, as though carved from metal, float upon shafts of light. They tremble in the heat.

It is here and at this time that the tropical revolving storms known as "cyclones" have their birth. It seems that under certain circumstances large masses of rising air become detached and, as it were, possessed of a life and individuality of their own. Spinning clockwise round a centre of low pressure, in which there is complete calm, they move off south-westwards, travelling down between the high pressure zones whose procession eastwards across the Indian Ocean causes the South-East Trade winds. Revolving round an ever-deepening vortex and with speeds increasing up to as much as fifty knots they whirl across the western Indian Ocean. On their course they may strike the unfortunate islands of Mauritius or Réunion or any of the innumerable tiny coral islands that lie in their path. Turning south-eastward in about

the latitude of the Tropic of Capricorn, they begin to get tired, lose their fury and finally die out in about the thirties of the south Indian Ocean.

In October 1948 we sailed eastwards from the Seychelles in our 67-foot trawler drifter *Cumulus*. Our mission was to fish on the banks and reefs around the Chagos Islands and find out if there were enough fish there to make commercial exploitation a feasible proposition. There were three Europeans on board, our skipper who was a Welsh trawlerman from Milford Haven, Dr John Wheeler, who was a distinguished zoologist, and myself. Our crew was made up of ten creoles, of all colours from black to white, under Emile our bo'sun, who was the finest sailor in the Seychelles. Our tiny self-contained world, in which there was no distinction of race or colour, danced across the Indian Ocean like a bubble.

Our drifter had been built in Scotland before the war for the herring fishing. Her living accommodation was a small saloon down aft in the stern. You entered it by a vertical companion ladder in the engine-room and then passed through a door in the bulkhead which divided the engine-room from the saloon. The saloon had originally six recessed bunks, three on either side, but the forward one on each side had been boxed off to make two little cabins, one for the skipper and one for the engineer. A bench ran along each side of the saloon and there was a table in the middle. This fug-hole was our sleeping-room, our dining-room and our home for many trips to and fro over the Indian Ocean of which this one to the Chagos Islands and south to Mauritius was one of the longest and was to last nearly three weeks.

Our home from home always smelt of a mixture of diesel oil and stale human garments since the only ventilation was provided by two small deckhead skylights which opened upwards and outwards. Whenever it rained, as it frequently and violently does in the tropics at sea, without much warning and

at odd times of the day and night, the skylights had to be closed. Then we stewed. If they were not closed very tightly water dripped through onto the table and onto the side benches. Three-quarters of the skylights, anyhow, had been blocked off by the partitions that formed the two forward cabins. There were, in addition, two mushroom ventilators in the deck, but one of them was jammed tight shut and could not be unscrewed.

You entered your recess bunk stern first and coaxed the rest of you through the narrow aperture, about four feet by three, like a mollusc retreating into its shell. But when inside I found I could not straighten out and had to lie on my side in the foetal position with my knees drawn up to my chin. I could not lie on my back because the deckhead of the bunk was too low for my knees. Each little box became a stagnant pool of your own breath, breathed and exhaled and re-breathed last night and the night before and many nights before that. You lay and gasped in it like a fish in foul water. I soon found out that I could not sleep in this cubby-hole and so every night, before I turned in, I went through an elaborate ritual. I pulled the mattress out from the bunk, a feat of strength in itself, and wedged it down on the bench between the table and the bulkhead. It was too wide for this space but, since it was a stiff hair one, it made a U-shaped trough in which I was able to lie, naked and sweating, but sleeping—fitfully at first but later more soundly as I got used to it. But John Wheeler and the Skipper slept the sound and innocent sleep of snails in shells on churchyard walls, curled up motionless in their dark recesses.

We left the Seychelles on a fine October evening. It was the beginning of the calm or North-West season and the many islands were afloat upon a sea of glass. A few great clouds towered above them and here and there far off there was a hint of rain. The total distance we had to travel, east to the Chagos and then south-west to Mauritius, was a little over 1600 miles so that in addition to full bunkers we carried extra fuel oil in drums lashed upon the deck. Our speed, since we were so heavily laden, was hardly more than six knots and we expected that it would take us five or six days to reach Chagos. We should be there for about a week fishing, and then push on south to Mauritius, arriving there nineteen or twenty days after leaving Seychelles.

For two days fine weather stayed with us. Our little ship, low down in the water,

wallowed along, nosing bravely through the blue water, pushing aside the Indian Ocean in creaming waves on either side of her bows. We ate our meals sitting on the deck or on the rail. The latter position was the more convenient since one was able secretly and without offence to empty into the sea behind one's back the custards, the unwanted portions of mountains of rice, the dregs of watery soup and the coffee apparently made of pencil shavings which our cook produced in his rocking clattering galley. I slept in my mattress trough dreaming of deep beds in expensive hotels. The night air blew in gently through the skylight above me and I could see one star moving to and fro across that velvet rectangle.

On the third night I felt a soft wet kiss on my forehead. It became woven into a dream about the "Flying Scotsman" induced by the rhythm of the propeller shaft beneath the floor. A second one became part of the dream too, but a third broke through the surface of my sleep and awoke me to the realization that it was raining through the skylight above me. I lay there for a while unable really to face this horrid and boring new fact in my life, waiting for the skylight to be closed against the steadily increasing spatter of drops that now came hurrying in. The star had gone, I noticed. Soon I was really very wet. In a rage, cursing the ship and all who sailed in her, I got out of my trough and, putting a towel round my waist, went through into the hot, oil-smelling, thunderous engine-room and up the greasy ladder onto the deck. The night sky was sharply divided into two halves. In one the stars still shone, but in the other a thick blackness enveloped all the east. Beneath it a line of white advanced towards us across the sea, gleaming like a sword in the darkness, and all behind it was obscured by rain which, even as I stood there looking into the night, drove slantwise at us with a hiss.

A sailor was shutting the skylights. "*La pluie venie,*" he pronounced. I went below and lay down again in my now very damp trough, but was soon up once more for the man, of course, had forgotten to close the mushroom. When I came on deck the second time the whole sky was black. All the stars had gone and the sea seemed to be leaping savagely out of the darkness into the dim glow cast by the light from the galley window. The sailor was in the galley contentedly rolling cigarettes, squatting on the deck with his knees up to his ears.

I lay down again in a warm wetness and

rocked until dawn. The skylight and the mushroom, though closed as tight as they could be, were now leaking freely and the mattress, the table and I were all a single clammy wetness. I got up when the rectangle above me was a faint grey. The ship had taken on a mad, spinning, whirling motion, not a roll nor a pitch nor both together but a shuddering dance which made you giddy. It was impossible to stand for a moment without holding on to something so I put on my wringing wet shorts sitting down. Then I hauled myself up the companion ladder and into the wan daylight. The world was a mass of flying water. There was nothing but streaming water below, above and on all sides. Huge waves drove down upon us out of the east, frothing as they came. The easterly gale, a furious warm breath with no tang in it, blew their tops off and sent them scudding over the bridge. A blinding rain streamed slantwise and stung the skin like needles. But the steady rhythm of the engine tonked on above the scream of the wind and was somehow reassuring. There was only one place to go to get away from the universal water and that was the wheelhouse. The Skipper was there already and had been there since midnight with a thick white mug of strong tea in front of him from which he perpetually refreshed himself. It was securely wedged on a corner bracket near to his hand.

"Bit boisterous," he said, laconically, without turning his head away from the window.

Presently Wheeler joined us and we stayed in that giddily spinning, rocking box all day. I have never cared for this sort of thing even at fun-fairs, but when it goes on for hour after hour it becomes excessively tedious and conversation runs dry. So the three of us and the helmsman just stayed there in silence, clinging on and waiting for an improvement in the weather. None came that day, though the hot easterly gale veered to south-east as the grey day wore on. All day the waves charged us like cavalry and our brave little ship met and overrode them. We ate out of tins, sitting on the floor if there were room, because cooking was impossible in the galley and all the crockery had long ago gone with a crash. When night fell we went below to the saloon and I curled myself up on my wet mattress in my cubby-hole, like a chicken crawling back into the egg it has forsaken, thinking that even that cramped fug-hole would be better than lying under the drips. It would at least be dry. But I was wrong,

and after an hour or so in my egg, I re-hatched myself, climbed out and stretched myself out once more under the drips.

The weather did not improve that night nor all the next day, but as the hours passed the wind wore slowly round to south and south-west and finally to nearly west. The waves at the same time, or rather somewhat after the wind, altered the direction of their attack. From dead ahead, so that we climbed up over them and slid giddily down their backs, they began more and more to come at us from the starboard side so that the ship rolled her rails under and scooped up creaming torrents which foamed across her decks. Presently they began to come at her from astern and chased us with streaming manes, overtopped the poop and, as the stern climbed up them, went racing on ahead. Meanwhile the barometer, having dropped like a plummet, was now swiftly rising and we watched it anxiously, knowing that when it reached the top of its climb the weather would slacken off.

On the morning of the fifth day I groped and hauled myself on deck again, a pretty sight after four days without a wash or a shave. My wet shorts were heavy with the salt they had absorbed and black with the grime which is a part of life in a small ship. It was still a grey world that morning, but less chaotic than formerly. The rain had stopped. The wind was still blowing strongly, but had diminished and was now coming from the orthodox quarter, the north-west. The sea was choppy and confused, as though spent and tired of so much mindless fury, but through the choppiness a big swell lifted itself out of the south. Best of all, high up and far away in the pall of grey above the northern horizon, shone an eye of blue, the "Dutchman's trousers" that gladdens the hearts of sailors.

When we sighted Peros Banhos, the most northerly of the Chagos group, that evening, the even line of coconut palms rode towards us over the blue sea. It seemed evident to us that we had passed through the lower limb of at least an incipient cyclone. I imagined it whirling on southwards, steadily deepening and increasing in fury.

Accordingly, when at last we reached Mauritius, I went up to the meteorological station at Vacoas. Nothing unusual had been recorded during the days of our passage, nor during subsequent days. No trace of our cyclone had come south, and so I suppose it was either still-born or sailed on to spend itself in the wastes of the Indian Ocean.

Explorers' Maps

IX. The Dutch Quest of the South-land in the 17th Century

by R. A. SKELTON

This series of articles by the Superintendent of the Map Room at the British Museum presents, in regional order, some episodes in the history of exploration for which the evidence of maps is specially interesting or accessible. The text is to be read as a commentary on the maps and not as a connected history of discovery. Mr Skelton's present article is the second of three surveying the cartographic record of exploration in the Pacific from the 16th to the 18th century

In the Pacific Ocean, wrote William Dampier in 1699, "the Spaniards have more than they can well manage. I know yet, they would lie like the Dog in the Manger; although not able to eat themselves, yet they would hinder others." This negative policy had been forced on Spain nearly a century earlier, less by the failure of her expeditions from Peru to find and colonize Terra Australis—the Southern Continent—than by the establishment of the Dutch in the Indian Ocean and Eastern Archipelago. For the exploration of the Mar del Zur or South Sea and for the oceanic voyages which it entailed, Dutch seamen were better equipped than the Spanish. The ports of south-east Asia and its islands in which they had supplanted the Portuguese furnished bases from which the South Sea could be entered by the west—the only course on which sailing ships could navigate in latitudes higher than 40° S. "No European colony", observed the Council at Batavia in 1642, "[is] better fitted for initiating these promising discoveries than the city of Batavia, which is as it were the centre of East India, both known and unknown." The Dutch ships were more easily worked than those of Spain and, since the object of their voyages was trade not colonization, they could be manned by smaller crews and fitted out with essential stores for longer cruises. Trained in the narrow waters of north-west Europe, the pilots of the Netherlands were not afraid of the inshore navigation necessary in charting a strange coast; they were skilled in the dead reckoning of the day and quickly became familiar with the wind-systems of the south-west Pacific. Their technical skill in navigation and hydrography and the elaborately organized chart service centred in Amsterdam ensured that the experience of the Dutch pilots was faithfully

recorded and filed in cartographic form for use by successive expeditions sent out on discovery. Unlike most of the Spanish voyages in the Pacific, which generated copious written records but few charts, the course of nearly every Dutch expedition was clearly and precisely laid down on charts, which indeed for a few voyages provide the only, or almost the only, documentary evidence.

The earliest Dutch fleets to enter the Pacific followed Magellan's track; but the factories in Java and the Moluccas founded by the Dutch East India Company after its incorporation in 1602 gave its officers easier access to the southern Pacific and to the "Great South-land" generally believed to fringe it. Between 1606 and 1628 landfalls were made on the northern, western, and southern coasts of Australia by Dutch vessels either sailing with instructions for exploration or (more commonly) running on recognized shipping routes. These discoveries of chance or design were recorded on the charts drawn by the pilots or compiled at Amsterdam by the Company's hydrographers — Peter Plancius from 1602 to 1619, Hessel Gerritsz. from 1619 to 1632, and from 1633 W. J. Blaeu and his son.

Whether Torres had sighted the Australian coast on the passage through his strait in June 1606 is doubtful. Three months earlier Willem Janszoon in the pinnace *Duyfken*, dispatched from Bantam in November 1605 "for the discovery of the land called Nova Guinea", had sailed south across the western entrance of Torres Strait, which he took to be a deep bay although his chart shows open water, and down the west coast of Cape York Peninsula to Cape Keerweer ("turn back") in 13° 40' S (Fig. 1). Captain John Saris, at Bantam in June 1606, picked up a report that "the Flemmings Pinasse, which went upon

The discovery of the west coast of Australia which followed was more fortuitous. The earlier Dutch fleets in passage from the Cape of Good Hope to Java had sailed with the monsoon by way of the African coast and India; but from 1611 Dutch captains were laying an easterly course, with the steady west winds, from the Cape to the longitude of Java before turning north. On this new and faster route the uncertainty with which the easting could be determined by dead reckoning led inevitably to unforeseen landfalls on the Australian coast. The instructions given to Tasman in 1644 noted that "in the years 1616, 1618, 1619 and 1622, the west coast of the great unknown South-land from 35° to 22° was unexpectedly and accidentally discovered by the ships *d'Eendracht*, *Mauritius*, *Amsterdam*, *Dordrecht*, and *Leeuwin*, coming from the Netherlands."

(Fig. 1) The Duyfken's chart, showing her track from Banda in 1606 and the first discovery of Australia. From the south-west coast of New Guinea she sailed west to the reefs at the entrance of Torres Strait ("Vuyle Bancken") and thence south along the coast of Cape York Peninsula

and 28° S. Practically the only contemporary records of this first landfall on the west coast are the charts of Hessel Gerritsz. (Fig. 2), which show the "Land van d'Eendracht discovered in 1616", "Dirck Hartogs Ree [road]", and to the north "Willems Revier" visited by the ship *Mauritius* in 1618. In the following year Frederik Houtman, commanding the *Amsterdam* and *Dordrecht*, "suddenly came upon the South-land of Beach in 32° 20'", naming it D'Edelsland after his supercargo; coasting north by west he came upon the dangerous shoal subsequently known as Houtman's Abrolhos (i.e. "Keep your eyes open"), and in 27° he identified Hartog's Eendrachtshland. The chart by Gerritsz. (Fig. 2), engraved in 1618 and revised after 1628, displays these and other chance landfalls on the west and north-west coasts, and provides almost the sole record of the striking Dutch discoveries along the south coast. In 1622 the ship *Leeuwin* found land running south-east to 35°, and five years later the *Gulden Zeepaerd* followed this shore, to which

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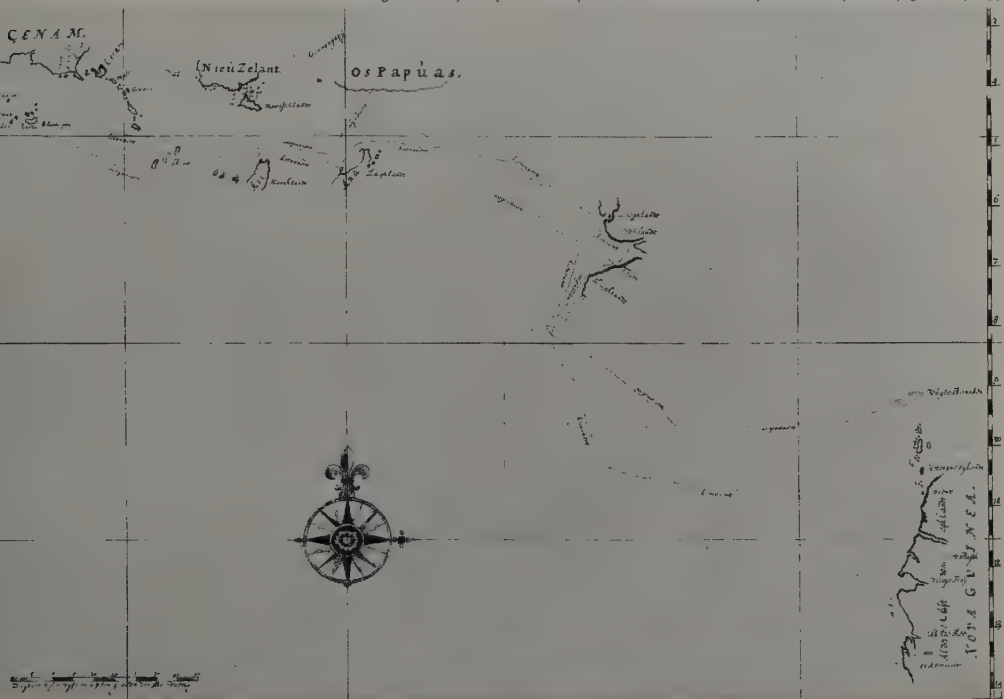
New Zealand

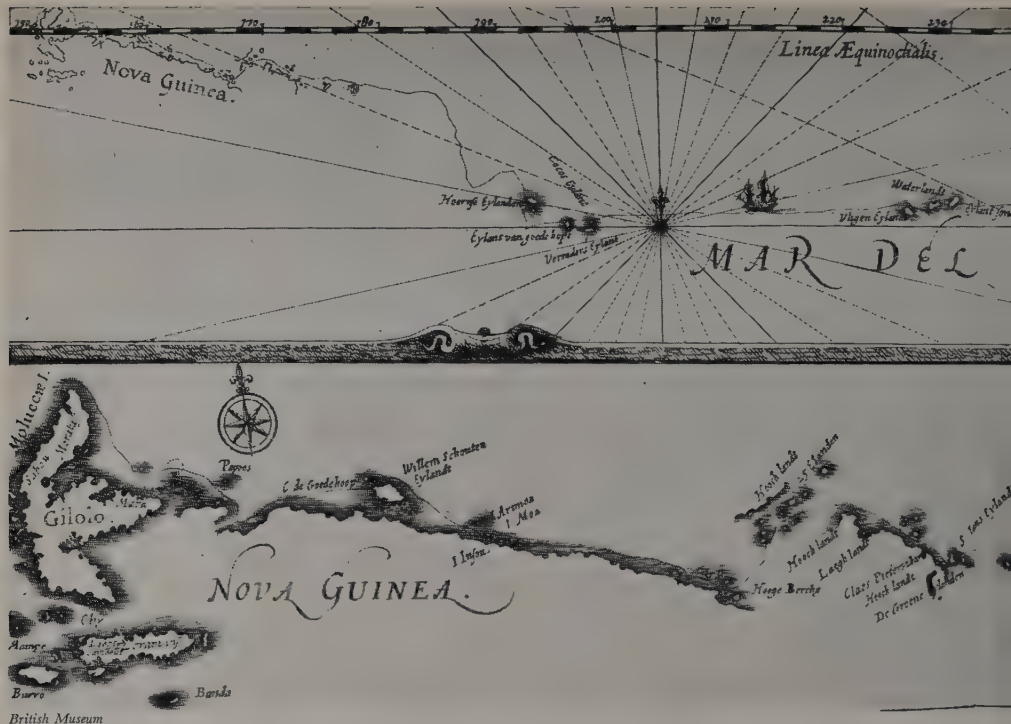
Os Papuas

Philippines

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Compass rose





(Fig. 4: above) The track of Schouten and Le Maire across the Pacific in 1616; the two insets show their course along the New Guinea coast and their passage of Le Maire Strait and Cape Horn

"new lands and islands towards the south"—the Southern Continent heralded by Quiros. Avoiding the routes by the Indian Ocean and by Magellan Strait reserved to the privileged Company, they sought and found "a new passage" through the Strait of Le Maire and round Cape Horn into the South Sea (Fig. 4, inset). The land on their left as they traversed the strait was taken to be a part of Terra Australis and named Staten Land. Sailing north to catch the trades, they passed through the Tuamotu Archipelago and reached the Hoorn Islands, north-west of Fiji (Figs. 4, 5). Le Maire, who took these to be part of the Solomon Islands or of the New Hebrides discovered by Quiros (Fig. 5), proposed to sail west for the continent, but was overruled by Schouten's more cautious advice to run north "in order not to drop too far below New Guinea". A north-west course took them north of the Solomons to New Ireland, and they made their way along the north coast of New Guinea to the Moluccas and Batavia (Fig. 4, inset).

By 1628 the Dutch could piece together their Australian landfalls to make the almost continuous coastline shown in the chart by Gerritsz. (Fig. 2) from De Wits Land to Pieter Nuyts Land and the Isles of St Francis and St Peter. The identity or connection of this "known South-land" with the "unknown South-land"—Terra Australis incognita—of the 16th-century cartographers remained obscure. Failure to penetrate Torres Strait from its western end and indeed to recognize that the strait existed, sustained the belief that north-east Australia was a southward extension of New Guinea (Figs. 6, 8, 11). Whether "Nova Guinea", thus enlarged, had a land connection with the known South-land or was divided from it by a strait was the subject of speculation. Some maps, such as that published by Hondius in 1630 (Fig. 6), still laid down "Beach"—the imaginary gold-bearing province of Terra Australis shown in 16th-century maps—in juxtaposition with the coasts painfully observed and plotted by Dutch seamen since 1606. Such an



This is a historical map of the Pacific Ocean, likely from a 17th-century Dutch or Spanish cartographic work. The map is oriented with North at the top. Key geographical features and labels include:

- Top Left:** "Filipinas" (Philippines) and "ARCHIPELAGO DE S. LAZARO" (San Lazaro Archipelago).
- Center:** A large sailing ship is depicted on the water, with a compass rose below it.
- Bottom Left:** "Nueva Guinea" (New Guinea) and "Ilas de Salomon" (Solomon Islands).
- Right Side:** "Linea Equinoctialis dat is d." (Equinoctial Line, that is, the Equator) and "Tropicus Capricorni dat is Streenbock" (Tropic of Capricorn, that is, the Streenbock).
- Map Style:** The map features a grid of latitude and longitude lines, with various smaller islands and coastal details labeled in Latin and Spanish. A compass rose is located in the lower-left quadrant, and a sailing ship is shown in the lower-right quadrant.

association of fact and fancy, not yet dispelled by the discouraging reports of pilots who had visited the Australian coasts, continued to nourish the Company's confidence that the South-land embraced "rich countries or regions . . . profitable to the Company." Exploration was expected not only to yield prospects of gold or of trade with the South-land but also "to prepare the way for afterwards finding a short route to Chile" within the latitudes of the brave west winds. Two possible routes into the zone of westerlies called for investigation. If open sea lay to the south of Leeuwin Land and Nuyts Land, that is the "known South-land", the Pacific might be entered from the Indian Ocean; but a much shorter passage from Batavia would be offered by a strait, if it existed, between "Nova Guinea"—the Cape York Peninsula—and Eendrachtsland, the known westerly portion of the South-land. To answer these questions was the purpose of the two voyages made in 1642-3 and 1644 by Abel Janszoon Tasman for the Governor-General Anthony van Diemen.

Tasman's instructions were drawn up from

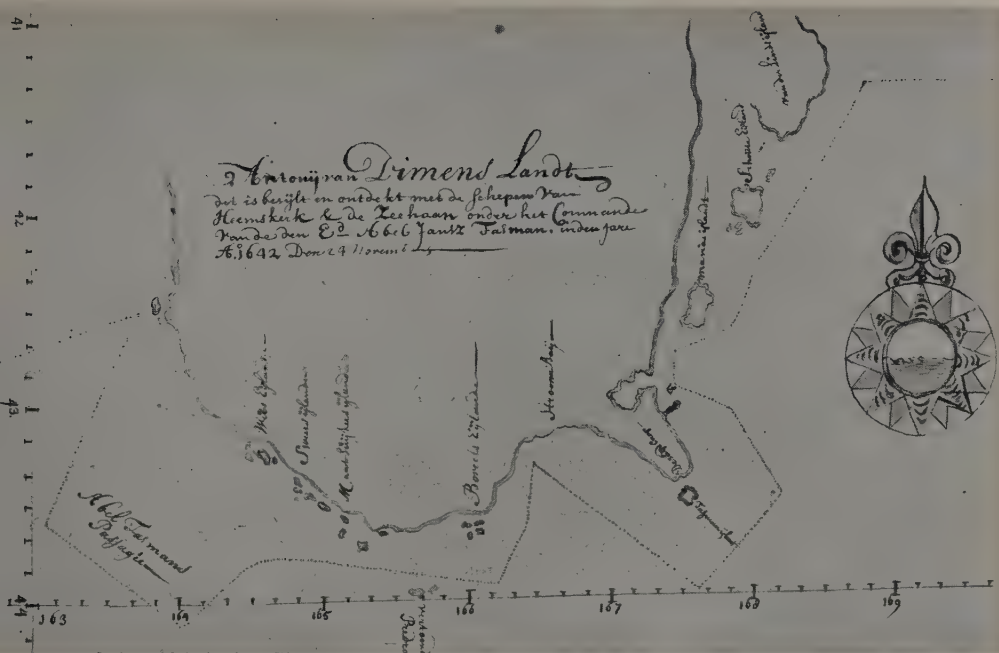
plans submitted by Frans Jacobszoon Vischer, who accompanied him as chief pilot. They charged him to sail south from Mauritius "until you get into the western trade wind, with which you will sail nearly southward until you come upon the unknown South-land or as far as 52° or 54° S"; thence eastward to the longitude of New Guinea "or of the Salomonis Islands situated in about 220° longitude, or until you should meet with land." Tasman was offered the alternative of sailing north to Nuyts Land and following its coast eastward to ascertain "whether this discovered South-land joins Nova Guinea near Cape Keerweer, or whether it is separated from the same by channels or passages." If he took the first course, he was to sail with the south-east trades to the Solomon Islands and thence to New Guinea. Rounding its west point, he was to run south to Cape Keerweer and follow the coast west to Willems River. The Governor-General and Council expected that his voyage would be "rewarded with certain fruits of material profit and immortal fame."

Tasman sailed from Mauritius in October

(Fig. 6) In the world-map by Hondius, 1630, the Dutch discoveries southward from New Guinea in 1606 and 1623 are delineated; but in place of those along the west coast of Australia we have only the conventional 16th-century delineation of Terra Australis under the old name of Beach

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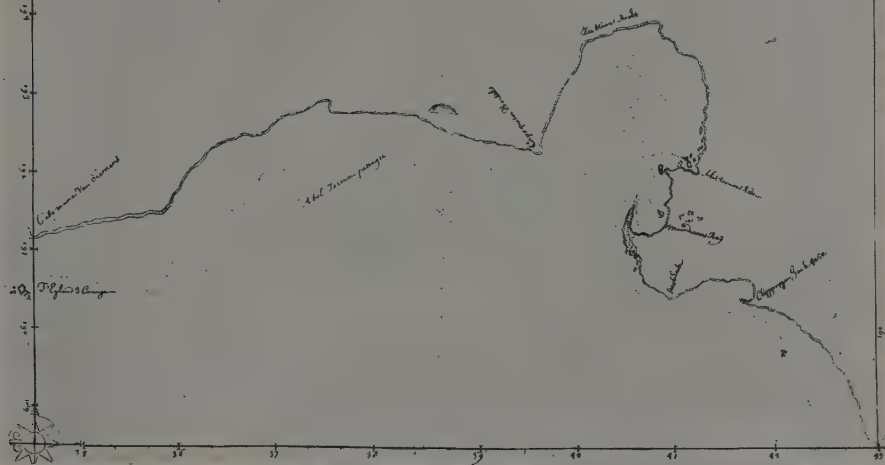
(Fig. 7) Tasman's chart of his track along the coasts of Tasmania, which he called "Anthony van Diemens Landt", in November and December 1642. Driven offshore by a storm after his first sighting of land, he subsequently anchored in a bay on the east coast and took possession of the country

1642 with two ships, the *Heemskerck* and *Zeehaen*. In 49° S he was forced by rough weather to bear up east, and in November he discovered "the first land we had met with in the South Sea". This was the coast of Tasmania, which he called Anthony van Diemens Landt (Fig. 7). Sailing east, he made his second discovery of land early in December, that of the west coast of New Zealand (Fig. 9), named "Staten Landt, since we deemed it quite possible that this land is part of the great Staten Landt [discovered by Le Maire and Schouten], though this is not certain . . . We trust that this is the mainland coast of the unknown South-land." After losing four men in an attack by the Maori (Fig. 10), Tasman sailed into the entrance of Cook Strait, coasted the North Island to Cape Maria Van Diemen, and, satisfied that open sea lay between him and Chile, set his course north-east. Tasman thus missed two opportunities of resolving his doubt whether New Zealand were part of the South-land: he did not sail east through Cook Strait, although he suspected its existence and a chart drawn by Vischer marked an opening, and he did

not turn south from Cape Maria Van Diemen, a course which would have demonstrated that his Staten Land was insular.

Tasman's north-east course was set, as he supposed, for the Hoorn Islands. He had on board the journal and charts of Le Maire and Schouten and the "Great Chart of the South Sea", drawn by Hessel Gerritsz. in 1622, on which their track was laid down (Fig. 5). The difficulty in relating his own longitude to that of the islands on his charts prevented him from picking up the discoveries of Le Maire and Schouten. Instead, he sailed through the Tonga Group and, turning west, nearly came to disaster among the coral reefs of Fiji, which he named Prins Willem's Islands. In spite of Tasman's own doubts, these were surmised "to form part of the Insulis Salomonis". The "Isas de Salomon" marked on Gerritsz.' chart just west of the Hoorn Islands were in fact Quiros' New Hebrides, but the true Solomon Islands discovered by Mendaña in 1568 were believed to lie close under the lee of New Guinea. Like Schouten in 1616, Tasman accordingly decided to steer north and then west and to

Nieuw Land Dit is bevestigde en overzigt met de schepen *Nieuwsherk* en *De Vlaan*
 onder het commando van de lichte *Abel Tasman* in den jaer *1642*
 Den 12 December



British Museum

(Fig. 9: above) *Tasman's chart of the west coast of New Zealand, 1642-1643, in which Cook Strait is shown as a closed bay.* (Fig. 10: below) *Tasman's ships with Maori canoes in "Murderers Bay"*

British Museum

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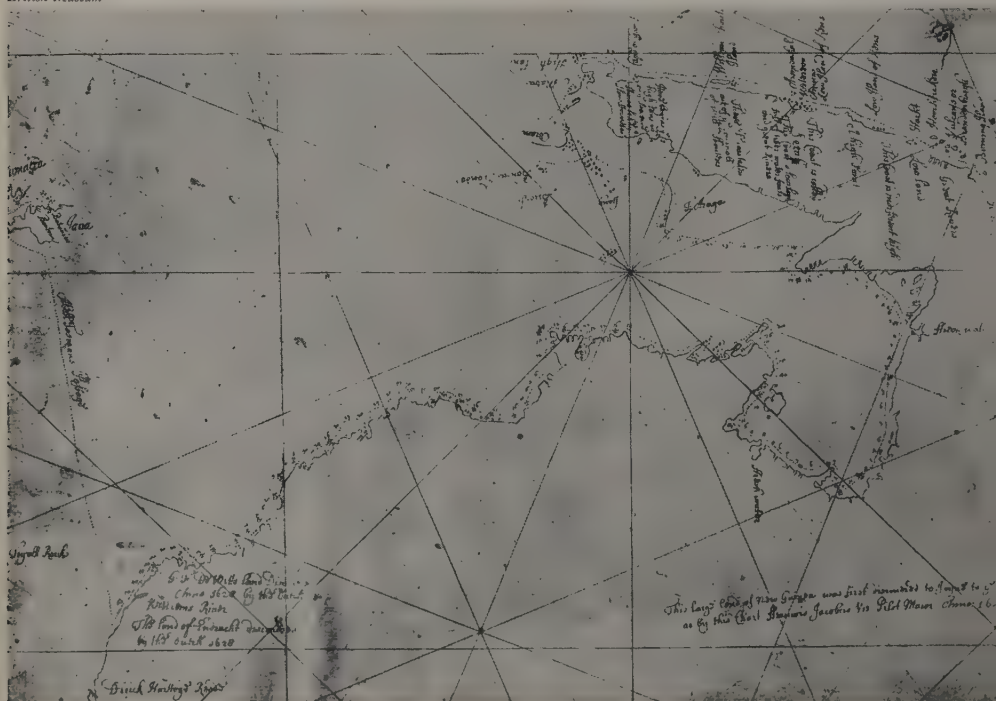
return in the track of Le Maire and Schouten by the north coasts of New Ireland and New Guinea. He reached Batavia in June 1643, leaving the last part of his orders unexecuted.

Tasman's "circular tour" of the South-land known to the Dutch, and hereafter called New Holland ("Nova Hollandia"), had lopped the whole of it from Terra Australis, whose conjectural coasts he had pushed far to the south and east (Fig. 8). His second expedition, in 1644, was designed to investigate two possible short passages from Batavia into the South Sea, which would open up the route to Chile by the north of New Zealand: the "shallow bay" (Torres Strait) charted by Carstensz. in 1623, and the coast of "Nova Guinea" (the Cape York Peninsula) beyond Carstensz.'s farthest south in 17° . If neither strait existed, he was to follow the coast of the South-land to the west and south as far as Houtman's Abrolhos. Tasman's journal has not survived, but his track is drawn on two charts derived from those of the voyage (Fig. 11). The chart and the Governor-

General's report show that he "found no open channel between the half-known Nova Guinea and the known land of D'Eendracht or Willem's River; they found however a large spacious Bay or Gulf"—the Gulf of Carpentaria. The coast was traced continuously westward from Arnheims Land and the Van Diemen's Land of the north (so named in 1636) and south to Willem's River. Thus (wrote the Governor-General) "this vast and hitherto unknown South-land has, by the said Tasman, been sailed round in two voyages." This was no small achievement; but the poverty of the country and of its "naked beach-roving" inhabitants convinced the Company that it offered no prospect of "material profit" by trade, and further exploration was discouraged. To the geography of New Holland and its adjacent waters, as established by Tasman and displayed in Thévenot's map (Fig. 8), few and minor additions were made until the voyages of Carteret, Bougainville and Cook, a century and a quarter later.

(Fig. 11) *The course of Tasman's voyage in 1644, of which his journal has been lost; in an English copy (perhaps by Thomas Bowrey) of a chart of his voyages by Visscher. This voyage eliminated the two conjectured passages into the South Sea by Torres Strait and the Gulf of Carpentaria*

British Museum





British Museum

(Fig. 12) Dampier's chart of his voyage in the *Roebuck* in 1699-1700, illustrating his doubts about the continental character of New Holland. They sprang, by analogy, from his discovery that New Britain was not part of New Guinea but a separate island divided from it by Dampier's Passage

The belief that New Holland was dissected by a strait or passage from north to south was not destroyed by Tasman's voyage of 1644. William Dampier, an Englishman of inextinguishable curiosity ("The farther we went, the more Knowledge and Experience I should get, which was the main Thing that I regarded"), had in his *New Voyage round the World*, published in 1697, pointed to the need for further exploration of New Holland. In 1699, commanding H.M.S. *Roebuck*, he sailed with the intention of circumnavigating New Holland and exploring the islands to the north. Crossing the Indian Ocean, he reached the coast of Eendrachts Land and sailed north by Sharks Bay (so named by him) and along the islands fringing the north-west coast. The strength of the tides gave him "a strong Suspicion that here might be a Kind of Archipelago of Islands, and a Passage possibly to the S. of N. Holland and N. Guinea into the great S. Sea Eastward." He was "afterwards confirmed in this Opinion,

when by coasting New Guinea, I found that other parts of this great Tract of Terra Australis, which had hitherto been represented as the Shore of a Continent, were certainly Islands; and 'tis probably the same with New Holland." This refers to Dampier's discovery, later in his voyage, of the passage separating New Guinea and New Britain, hitherto supposed to be one land (Fig. 12). In 1705 a Dutch expedition re-examined Van Diemen's Land (west of Arnheims Land) and, failing to penetrate Van Diemen's Gulf, to the south of Bathurst and Melville Islands, concluded "that this inlet runs right through to the south side of New Holland." From this they drew, like Dampier, the inference "that the South-land in a great measure consists of islands"; and Swift could locate his Lilliput, with open sea to the east, where the modern map shows the interior of South Australia. Nearly a century was to pass before Matthew Flinders, charting the Australian coasts, dispelled this geographical fantasy.

The Oyana Indians of Guiana

by DOMINIQUE DARBOIS

VERY little seemed to be known about the Oyanas. Once, we were told, they were a mighty people in the Caribbean. After the arrival of the Spanish explorers they were still strong enough to defeat the Oyampis, at that time the Red Indian masters of Guiana, and to conquer a big part of the country. During the following centuries both Oyanas and Oyampis were driven step by step into the heart of the jungle. The Oyanas, having paid another toll of lives, a very heavy one, to the jungle, are now said to number about 350. But they have not been subjugated; they are one of the last tribes to be free from foreign control and influence. Their villages are on the hills behind the falls of the Itany river, on the unexplored borders of French Guiana, Surinam and Brazil.

The Itany is a tributary of the Maroni, and near to their junction is Maripasoula, a last solitary outpost of French colonial administration. When our team of three, Francis Mazière, ethnologist, Vladimir Ivanov, film-cameraman, and myself, a woman photographer, decided to go there, we were warned that it might be the end of our journey, because the forest in those parts was so dense that no path could be cut through, and, the Itany being impassable to any but the Oyanas, nobody else could help us further.

However, at Maripasoula we met a young doctor who was on friendly terms with the indigenous population. He had started to erect a stone-built hospital, quite an undertaking in an area where wood was the only known building material and every stone had to be brought up from the cataracts. Although the people could hardly be expected to believe in his medicine, a few Indians came from time to time to help him, among whom were one or two Oyanas. Some of these finally agreed to take us to their biggest village, Yanamale, called after its ruler, the "Grand Chief before the Sun".

The Itany is a river without banks and without horizon. Here chains of islands barricaded a river-bed more than a thousand yards wide; there it raced through a rocky glen, forcing us to get out and push our canoes against the torrent. Later it suddenly calmed and seemed to get lost in the swamps of the forest, where the canoes were squeezed between giant trees and clumps of wing-shaped flowers. Quite often they had to be carried as we walked in single file along the jungle-edge.

Although our progress was slow, after two days we reached the enormous rampart of the Itany Falls which took us six hours to cross. The next afternoon, rounding a bend we found ourselves in a peaceful creek. A green hillside rose from the river; steep steps led up it to a village on the ochre-coloured hilltop. Up there stood the inhabitants grouped behind their chief. Although no-one could have told them of our coming they seemed to have been waiting for hours. Dogs barked furiously, but the people, solemnly attired in feathers, remained unsmiling, motionless, silent. No-one came to meet us. Facing them at last after a breathless climb, we were amazed at their poise and beauty. They, less impressed, looked as if they were deciphering a message written on our faces. After a while one of our boatmen explained our wish to be accepted as visiting friends. Yanamale, bidding us welcome, had a calabash brought and filled with a whitish liquid, from which he took a long draught. We drank next; it tasted like sour whey. (It was made, we were to learn, from the juice of manioc and pieces of tapioca bread which the women had chewed.) Then it was



A. J. Thornton



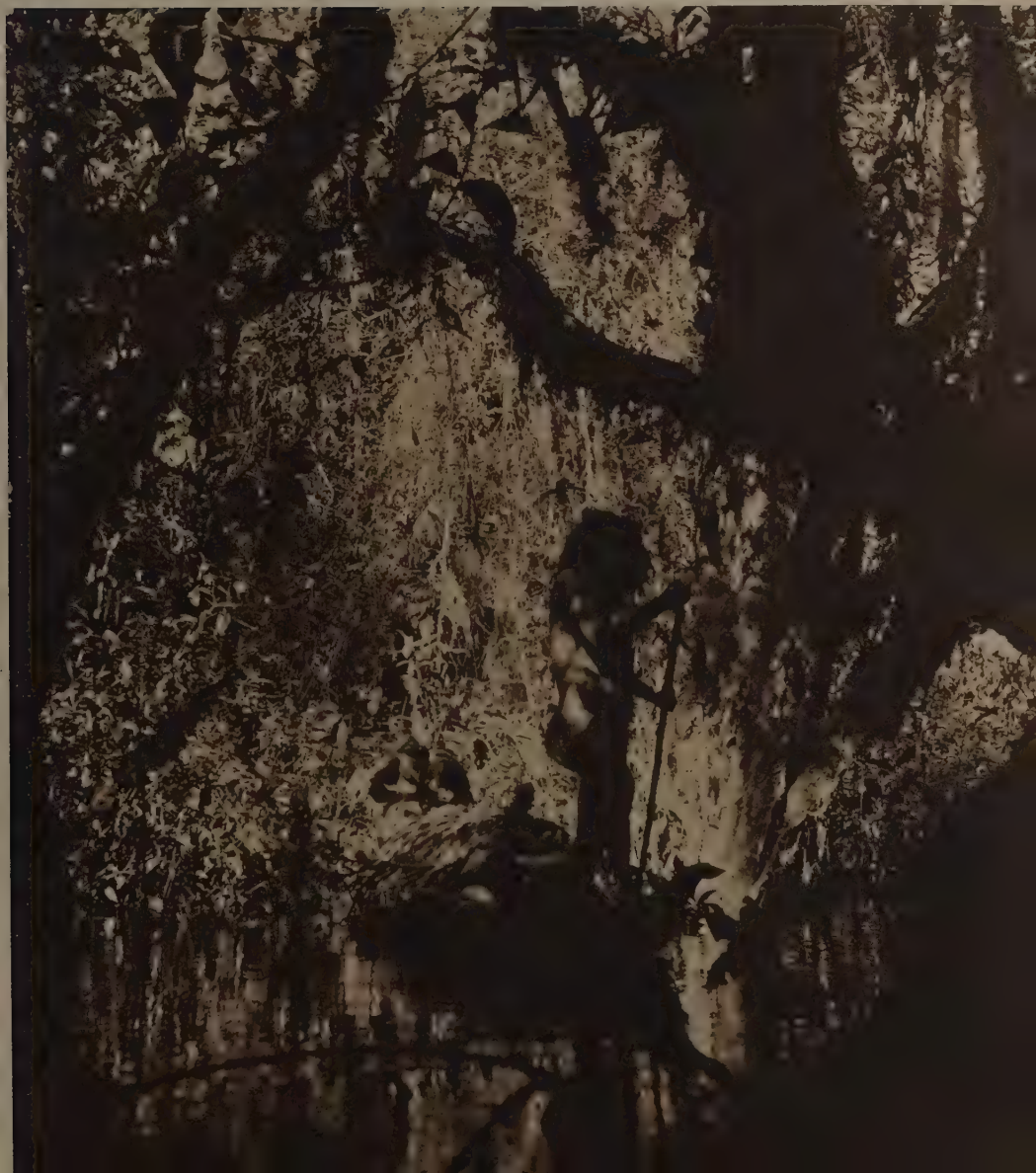
All photographs by the author

The Itany River below Yanamale, the principal village of the Oyanas, a South American Indian tribe who live on either side of the Tumuc-Humac mountains near the frontiers of Surinam, French Guiana and Brazil. The Oyanas' villages overlook the rivers which are their highways; they are great travellers and canoes are their only form of transport. They spend much of their time in the water, swimming, fishing or merely resting



The Oyanas are keen hunters. They lure their quarry from its hiding-place by imitating its cries. Here Yanamale, the chief of his village, is attracting a black monkey by making the cry of its female. As chief Yanamale does not cover himself with painted decorations as the other members of the tribe do, but like them he has removed his eyebrows, eyelashes and other hair from his face and body. When a chief dies the people move away and build another village at a site chosen by the new chief

During the rainy season, when most of the jungle becomes a lake full of amphibious snakes, the Oyanas go hunting in their canoes, threading their way through thickets of lianas, palms, bamboos, wild cacaos and sandalwood, and round the barriers of dead tree-trunks trailing in the swampy floods. They make their way silently to patches of high ground to which the animals they seek have retreated from the encroaching water





All the spinning is done by the Oyana women. This girl is winding the thread round a primitive spindle, the last stage of the process. They start by fixing the raw flocks on long bamboo skewers and beating them rhythmically on their forearms to clean them. They then take them between their finger-tips, roll, twist and stretch them until the thread is extracted. The wide movements of the arms and often-repeated bending of the body are an enchanting combination of grace and efficiency



Fishing with bow and arrow is a test of observation. The Oyanas can quickly spot, on the surface of the water, signs of the fish moving below. Thus guided, their arrows—metal-pointed reeds—rarely miss the target. Normally they use a rod for catching the fish they like best. This fish feeds on fruit that falls into the water from trees by the riverside; the Oyanas throw out their lines and, hiding behind a tree, imitate with their tongues the noise of the falling fruit



Panoko, a little boy who is always smiling, is the best-looking inhabitant of Yanamale. He and his companions thrive in the midst of the wilderness that is their home

In the plantations bordering the village beside the forest two little girls dream under the big leaves of the manioc plant. There is no compulsion in the relationship between children and their parents, whom they respect and by whom they are adored. This highly civilized relationship is one of the outstanding characteristics of the Oyanas. The plantations are the Oyanas' fields, vegetable gardens and playground. As the soil which feeds the prodigious vegetation of the jungle is not always suitable for cultivation the Oyanas never settle at a new village site until the first harvest proves that the plantations will grow the crops they need





An Oyana beauty drowsing in her hammock, which is suspended between two poles of her hut. The Oyanas lie not lengthwise but across their hammocks which, made for two, easily extend to hold four. The hammock is the first of their two essential pieces of furniture; the other is a small wooden bench

passed to the villagers who drank in deep silence and went away. Yanamale alone stayed and escorted us to the big guest-hut in the centre of the village. Later my companions tried to mix with the groups of villagers but failed. We were the first white people to come and live there but that was not enough to interest the Indians.

Nor were they ever embarrassed by our presence. They went on with their normal lives whether we were watching them or not. As their huts, under deep conical roofs, were open four feet from the ground, they had no hiding-place anyway. The women planted, baked, brewed, cooked and spun. In the clearings beyond the village they cultivated manioc and cotton between the stumps of hacked-down jungle trees. They formed the large disks of sacred tapioca bread, marked with crossed lines which probably symbolized sunbeams, baked them in the open and put them on the roofs to dry. The men made fragile masterpieces, such as gigantic feather-crowns, and canoes—simply hollowed-out trunks with sharpened ends yet most reliable on their untamed rivers.

Neither women nor men ever hurried or toiled. The most ordinary of their occupations was like a dance. When the men were working on the scaffolding of unfinished huts, hovering between earth and sky, they seemed to perform the movements of an archaic ballet. Yet all the work done in Yanamale is only a side-line. The dominant features of Oyana life are apparently leisure and serenity. The people spend most of their time resting in their hammocks. The children's hammocks are made to their measurements, and even the baby has a miniature hammock tied round his mother's neck. They also enjoy resting in the river. Stretched out in the water as though in bed they float on their backs, eyes half-closed and long black hair drifting among aquatic plants. The river is their second home, to which they return several times a day. The new-born child, immediately after its birth, is bathed in the river. And their story of the creation is that the first Oyanas, formed from earth, bathed in the river and disintegrated; they were restored, and changed into spirits by Capou, creator of the sky and of the earth, who governs the good harvest and the bad.

The only occupation they take as seriously as their leisure is the care of their persons. Men spend just as much time on it as women. These 'Red Indians' are not red; their bodies are a sun-tanned shade, but they completely cover them with a red ointment which, made from the powdered seeds of a wild scrub,

contains a dye so strong that everything they touch becomes red. On this foundation they draw (with bamboo-sticks and the sap of a plant) blackish lines, points and rectangular shapes. These geometrical ornaments, on face and legs or on the whole body can, by small variations, express different moods and intentions. One variation, indicating that a young man is in love, allows the woman he is courting to read his feelings on his face.

Happy and careless, given to infectious outbursts of laughter, they seem to live from day to day; but there is still another side to their life. They have two languages. The everyday one, which is also used in love- and cradle-songs, is easy and much backed up with gestures. The other, known only to the initiated, is the language of the hymns and exorcism spells by which they communicate with the world beyond. They are entirely in the grip of that magic world. It rules and regulates each of their days and envelops them in a network of prohibitions.

Ritual regulations restrict barter with the Oyanas to a minimum. In exchange for their hammocks, feather-work and well-trained sporting dogs they accepted knives, graters, fish-hooks, matches, cooking pots and, most coveted, beads, but only red and blue ones, and only of special sizes. When we tried to give them other beads they were firmly refused. But our perfumes were popular with the young men who quite frequently came for a spray before meeting their girlfriends. One of them prepared for such occasions with a glass of condensed milk and a French cigarette. The children acquired a taste for chocolate straight away, and a handsome woman preferred brilliantine for her hair to the customary monkey fat. And that was about all they wanted from us.

Between the ages of about ten and twenty-five the Oyanas pass through six initiations, at three-year intervals. Each entitles them to new rights until at last, after the sixth, they are full members of the community.

The deficiencies of the Oyanas are as obvious as their virtues: they have no knowledge of writing, but a trace of it may be found in their ornamentation. Their figures stop at five and twice five, according to the fingers; for more than ten they have only one word, indicating "much". Yet they did not strike us as a people whose development had ended at an early age. They rather seemed to be the last heirs of a civilization which, though simplified through many generations, still surrounded them with the sunset glow of a noble past.

Old and New in Glamorgan

by DEWI MORGAN

LEGEND has it that there was once a sign-post on the Brecon Beacons with one arm signifying "To England" while the other indicated the road "To Glamorgan". All those who could read are alleged to have taken the road to Glamorgan.

Such a story, unverifiable though it may be, illustrates the pride that Glamorgan people have in their county. And it is a pride not without justification. For it is a county which rejoices in such a diversity of features. Rolling mountains, rocky cliffs, sandy shores, sleepy rusticity, gnarled mining valleys and modern heavy industry, they are all there. Still more exciting in these days of expensive transport is the fact that they are all to be found within reasonable walking distance of one centre, the ancient Borough of Aberavon.

On your map you are most likely to find the words "Port Talbot". Confusion with such names as "Aberaeron" and "Aberaman" has resulted in the supplanting of the old name. Yet it is "Aberavon" that etymologically enshrines the ancient secret. For it means "mouth of the river" and while the river is not important the site of its mouth is. For it pours its water into the Bristol Channel under the beetling brow of Mynydd Dinas. And Mynydd Dinas, just a mile or so from the sands of Swansea Bay, begins the range of hills which flank the Vale of Neath and lose themselves in the Brecon Beacons which themselves merge into the mountain range which runs right through Wales.

Aberavon, then, has always been a bottleneck, the only means of easy communication between England and West Wales and beyond it to Ireland. As such it has the history one might expect. At some dim time in history men had come overland, even from India and the East, perhaps, and found this access to the west. Some shaggy Dawn man had cautiously put his foot into this river to see if it could be forded.

Somewhere between 2500 and 2000 B.C. we should have seen the first of the Iberians here. Their short stature and long skulls are still to be found in Wales. Then Aberavon must have felt the repercussions of the uneasiness which seemed to afflict Central Europe shortly after 2000 B.C. when the Beaker folk arrived with their primitive tools. About 1500 B.C. they were followed by the

Bronze Age people, whose round barrows are plentiful on the hill-tops.

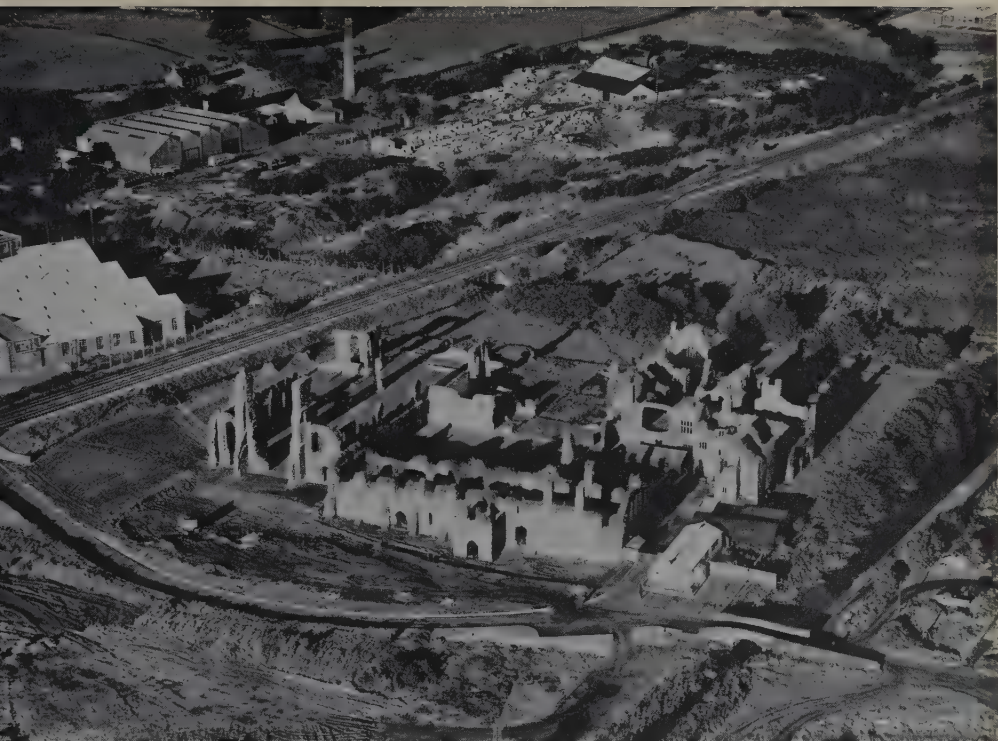
They would in turn be driven further west by the Brythonic Celts who came, as Wales' last full-scale invasion before the Romans, and dominated the region. Now was the time when Druids were to be seen at this spot and high-prowed Phoenician and Greek galleys were loading ores for North Africa—exactly the reverse of what happens today.

It is hard for us to realize that before the Romans arrived this land already had an ancient history. Geologists tell us that the coal deposits were already laid down some 240,000,000 years ago, and rest upon far older rocks. Porthcawl nearby can show traces of some prehistoric reptile that roamed a desert landscape blotted out by the inbreak of the Triassic Sea. Ice buried Glamorgan-shire only a million years ago, and against such a background the human occupation of the Paviland Cave on Gower Peninsula—perhaps about 8000 B.C.—is topical news.

It was not long afterwards (geologically speaking) that Ostorius Scapula and his legions beat Caradog and his Silures. The importance of this region in Roman times is indicated by the fact that the Via Julia Maritima ran right through it. About this time, Christianity reached South Wales since Tertullian could write that the armies of Christ had penetrated into parts of Britain which those of Rome had failed to reach. It was Christianity that gave the area its distinctive character a few centuries later.

The coming of the Saxons began what for England were the Dark Ages. But they had no such effect in this part of Wales. Elsewhere the barbarian was triumphant. A handful of monks in the neighbourhood had a monopoly in the manufacture of Celtic strapwork stone monuments and samples of their art went far and wide.

With the advent of the Normans the district must have changed most of all. This narrowing plain must have been of vast strategic importance to them. The tribesman who had fished the river and roamed the hills for so long must have given yet another foreign invader some insoluble problems. At least, the Normans were compelled to leave the castle of Afan to the Welsh as their only stronghold.



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Neath Abbey was founded in 1130 by the Cistercians. Unlike many abbeys of South Wales which are still, as when they were built, in "uninhabited places", Neath has been engulfed by industrialism—a process which started in 1584 when a copper-smelting works was set up beside the Abbey

For a couple of generations Glamorgan was the scene of constant battle between the Norman and the Welshman. Yet through it all moved the peaceful white-robed Cistercians whose twin abbeys at Neath and Margam were already centres of culture and strength. And in 1249 there began the slow trickle which was to grow to a mighty flood for it was then that coal was first carried over this spot. And the payment for it was half a mark down and half a bushel of wheat a year!

We can pass rapidly over the 14th century when Lollards, the Black Death and famine all left their mark on the area. We can omit the floods of a later century, in between the visits of Leland and cartographic Speed. We can deal lightly with the incident in which the Portreeve hid Aberavon's Charter from Cromwell's troops. We can leave to some other chronicler stories of the visits of George Fox, the poet Gray, Lord Nelson and H. M. Stanley (going to Neath to pay court to

Dorothy Tennant). For we have now set the stage for some picture of the region as it is today.

Let us begin our tour at Neath, the Roman Nidum, which round about the end of the 12th century became a walled town with its castle. Leland in the 16th century, seeing it in all its glory complete with tranquil monks, could call it the "fairest abbey in all Wales". But Borrow in the 19th could compare the surroundings only with "Sabbath in Hell".

Today the imagination has to remove some of the smoke and grime and forget the gaunt surroundings before its beauty can be appreciated. Considerable efforts are being made to restore the beauty that was. But it must be sorrowfully admitted that industrialism has more affected Neath than any other part of the area. Perhaps the new by-pass will enable the town to recover its composure. The six miles from Neath to Swansea, exaggerated to twelve by circuitous roads, are



M. Wight

Scwd-yr-Eira, the "spout of snow", a waterfall on the River Hepste at the upper end of the Vale of Neath. Here, towards the Brecon Beacons, the moors and glens and rivers are a world apart from the mining valleys a few miles to the south-west and the great factories that blacken the coast

made the worse by the poor quality of these roads. Now, however, a great new arterial road is being completed at a cost of over £2,000,000. Without doubt this is quite essential to the healthy industrial future of South Wales. But in addition the great soaring viaduct, spanning the Neath estuary, should have considerable aesthetic value.

But interesting though the town is one cannot be long in Neath, even in imagination, without feeling the urge to rush off to its fascinating Vale where industrialism is soon forgotten. For the saucer of the South Wales coalfield has a border of intricate and delightful pattern.

The northern tip of this saucer is marked by the glowering escarpment of Craig-y-Llyn (1969 feet) which appears to stare defiantly at the Brecon Beacons. Both, apparently, wish to take credit for the fairy glens and bubbling waterfalls which lie between them.

Walking along the rivers here is like walking in the fern with a Scotch terrier. At one moment you can see him, the next he is lost, then you suddenly find him jumping high in the air. For the rivers here appear and disappear, enter caves and wasp-waisted ravines, sink through cracks in the ground and emerge to leap over arching waterfalls. The carboniferous limestone further south delights economic man by providing his coal. The carboniferous limestone outcropping here delights the soul of man by playing tricks with the topography. The Old Red Sandstone further north gives enduring mountains but here a geological Puck uses all his arts.

It is difficult to know which elfin trick is the more pleasant. The caves have their stalactites and stalagmites as well as their underground streams, the rapids have their curiously formed boulders as well as the ground-bass of a giant organ. Perhaps the

most popular single feature is Scwd-yr-Eira Falls on the River Hepste: in winter a triumphant phalanx of splinters of ice; in summer a cascade of water. But greatest delight of all is that the only means of crossing the river for some distance is *under* this fall. I myself satisfied many early repressions when I found I could stand under it and successfully shelter from an unexpected shower.

We have not yet, however, fully explored the variety which this corner of Glamorgan offers. We pick up our rucksacks and once more turn south—over the rolling mountains where the twists of mining valleys remind one of rheumatically and gnarled joints—peering down from a thousand feet or so on a cluster of miners' houses built in long rows as dictated by the narrowness of a valley—until we stand on the tip of Mynydd Dinas which, abutting the sea, creates the Aberavon bottleneck.

There could be no better spot to sit and eat

Port Talbot has grown up at the mouth of the Avon, on the narrow strip of low land between the hills and the sea. This is industrial Wales at its busiest: iron ore from abroad and coal from the neighbouring mines meet here, the raw materials for one of the world's most modern steel-works

our sandwiches. To the right lie Neath and Swansea Bay, the great crescent ending in the curious bumps of rock which are the Mumbles; to the left the height of Mynydd Margam guarding the old Abbey and sheltering the sand-dunes of Kenfig.

As we look across the bay our eye is first caught by the glint of sun on a spotless grey 8000-ton ship entering the docks laden with black Narvik ore. When the Talbot family built their dock and houses for its employees they probably did not anticipate that their name would submerge the old Aberavon. Nowadays in Port Talbot the emphasis is much on the Port for to it comes most of the iron ore which gives the town its industrial importance. Port Talbot is so near the coal pits that the same truck has been discharged into a ship twice in a day. But coal is not exported as it once was and Port Talbot now boasts its steel.

Which is little wonder. That grey ship

By courtesy of the Steel Company of Wales Ltd



When it is completed this new arterial road will carry traffic from Neath, Port Talbot and Cardiff to Swansea by means of a viaduct over the estuary of the River Neath, shortening the journey by six miles

H. G. Lewis



carrying ore moves up to the filigree metal-work of a giant crane. The ore goes direct to the insatiable maw of the world's most modern blast-furnaces; and then goes helter-skelter through all the processes which the modern Tubal Cain has devised to emerge—at something over 30 miles an hour—from the great 110-inch mills as steel strip.

That is the unique character of this £60,000,000-odd steel works—its integration. There are other steel works which are bigger. But they are separate units. In Port Talbot the whole thing is a five-mile long factory where everything happens—one almost said at the touch of a button. Such a statement would not be a serious exaggeration.

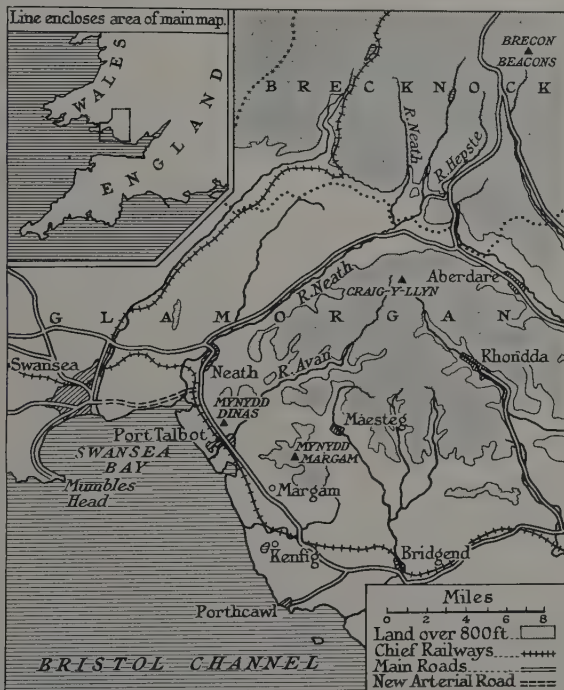
As in the past some wizardry of the elements produced natural wonders in the Neath valley so in the present the wizardry of the technician has produced industrial wonders a dozen miles away. When the project was begun a few years ago its site was a wild spot. In less than five years some 550 acres have been raised twelve feet. Some of the old slag-heaps no longer deface villages. They lie instead beneath machines generating 46,000 horse-power. Rivers are being diverted or sent underground; new belts of trees will prevent sand-erosion.

As you look up you might almost feel you see a quizzical wrinkle in the brow of Mynydd Margam. For this ancient hill has seen a transformation of such a kind before—though then in reverse.

In the Middle Ages Mynydd Margam looked down on the bustling affairs of the town of Kenfig. That this was a place of considerable importance is indicated not only by its Guild-hall, Castle and Hospital but also by the ordinance pertaining to its city centre. "Noe butcher shall throw noe heads, feet nor none other garbage in the High Street and there shall be noe Tennis playing there." No-one was allowed to walk about the streets after nine o'clock without reasonable cause or a lantern in his hand nor yet was one allowed to buy anything in the town until it had been brought to the market place—thereby safeguarding the tolls. Kenfig was obviously

a rich and desirable spot since it was pillaged so often. A Norman chronicler writes with some surprise: "Kenfig has not been burned for a year or more." All these human blows it was able to overcome. But Nature was more powerful. Somewhere about the 13th century there began the devastating inroads of sand. In the 14th century there was a prohibition of any act likely to aid the sand's advance. In the early 16th century there came a sandstorm which turned the countryside into an unrelieved waste—a "Pompeii of sand". Interesting as it is with a circumference of over two miles and containing fresh water even though within a few hundred yards of the sea, Kenfig Pool cannot claim to have submerged the old borough as gossip alleges. Rather let it rejoice in having the best pike-fishing in the county.

Having here one of the happiest hunting-grounds in South Wales, the naturalist has worried little about the disappearance of the mediaeval city or any other changes until the advent of the new steelworks. The gulls came wheeling in from the sea, the rabbit ran free, the butterfly pursued a leisurely course. Great care has gone into the planning of the



A. J. Thornton

steelworks to preserve the amenities. Mynydd Margam will keep watch and record how far that aim is realized.

Meanwhile nearby Porthcawl will go its bifurcated way. Porthcawl conscientiously caters for all. From the 'refined' quiet and dignity of Rest Bay to the tumultuous Coney Beach, from the first-class hotels to the hunger-killing fish-and-chip shops, from the trackless sand-dunes of its western edge to the great coach park adjoining Coney Beach, Porthcawl aims to please. Its Atlantic breezes fully justify the epithet "bracing".

History, industry, mountains, sea—Aberavon is accessible to them all. But there is one thing we have so far omitted. Margam supplies the pastoral felicity which will complete the tally of diversity.

Lying on the western tip of the fertile Vale of Glamorgan, Margam retains the distilled peace of a hundred generations of assured living. Many of its trees fell victim to the

wartime demand for timber, occasional west winds bring a whiff of steel-smelting while their counterpart from the east may contain a suspicion of a carbide factory. But Margam continues to be a classical oil-painting among surrealist blue-prints.

It was in 1147 that Robert the Consul, Earl of Gloucester, founded Margam Abbey. The spot was already hallowed since it had previously been the abode of Meiler, a Cistercian hermit. Even before his time the hermit Theodoric had made the place a centre of holy living. Margam was not only a centre of Christian piety; it was also the centre of production of a large number of sepulchral crosses. They must surely have been the work of a whole religious community which long ante-dated the Norman conquest.

Some of these stones are worthy of special mention. The Bodvoc Stone, nearly five feet high, was found on the highest point of Mynydd Margam and probably goes back

Porthcawl is a seaside resort that "conscientiously caters for all"; its attractions range from the exhilaration of the scenic railways of Coney Beach to the idle joys of a deck-chair in the sun

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Mrs M. Wright

Not all the Glamorgan coast is life and bustle: long stretches have been buried by shifting sands which over many centuries have gradually submerged farms, manor-houses and even an entire town

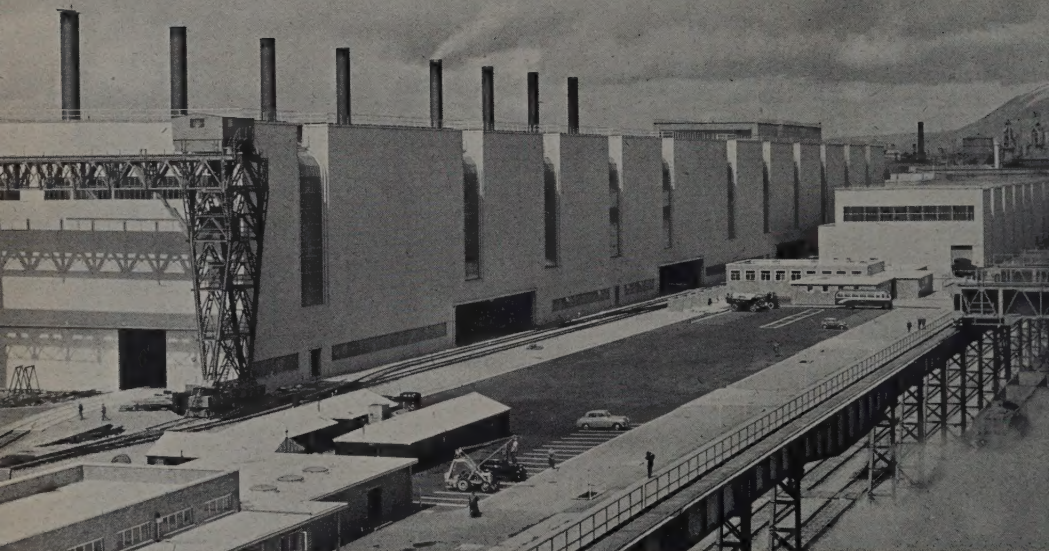
to the middle of the 6th century. The Enniaun Stone is over six feet high and beautifully decorated with interlaced work and key pattern. The great Conbelin Cross, belonging to the middle of the 9th century, is a splendid specimen of the wheel cross type embellished with key pattern ornament on its face and a hunting scene on the other side. The earliest stone in the collection is the Roman Maximinus Milliary Stone, five feet long, which belongs to the 3rd century. Together with several other incised slabs these stones have in some cases been erected *in situ* while casts of nearly all of them are to be seen in the National Museum of Wales.

Robert the Consul, then, had a standard to maintain in his Abbey. That he succeeded is evident from what remains of the structure, above all of the Chapter House. This building, noble even in ruin, is almost unique in plan compared with other Cistercian monasteries. It is a twelve-sided building but its interior is circular with a width of fifty feet.

In the centre rises an elegant column which once supported the vaulted roof in twelve compartments but this fell in 1799. It was lighted by nine tall lancets.

The other principal part of the Abbey which remains is the Church of St Mary, now the parish church. This occupies the greater part of the former abbey nave though the original west front has been much restored. In its day the Abbey was a centre of culture and learning of every sort. The *Annals of Margam*, for example, is the only contemporary authority which accused King John of the murder of his nephew.

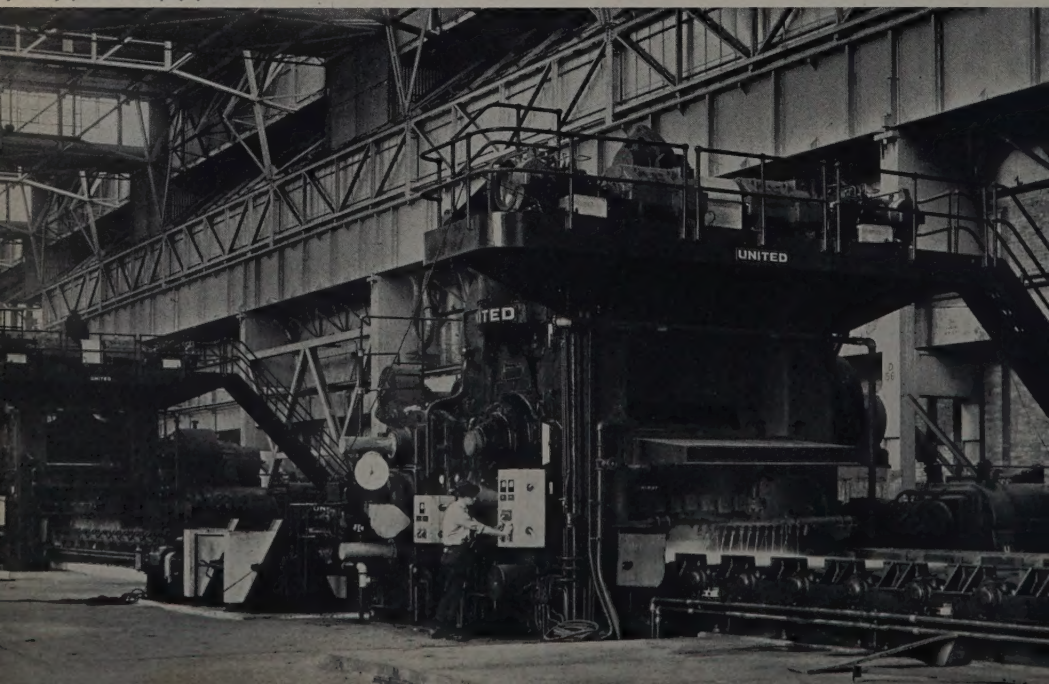
On its dissolution the Abbey passed into the hands of Sir Rice Mansell whose grandson, after distinguishing himself as a sailor, showed considerable commercial ability by acquiring a patent of monopoly for the manufacture of glass, using for the first time coal as a fuel. King James was led to marvel "that Robert Mansell, who has won so much honour on the water, should meddle with fire."

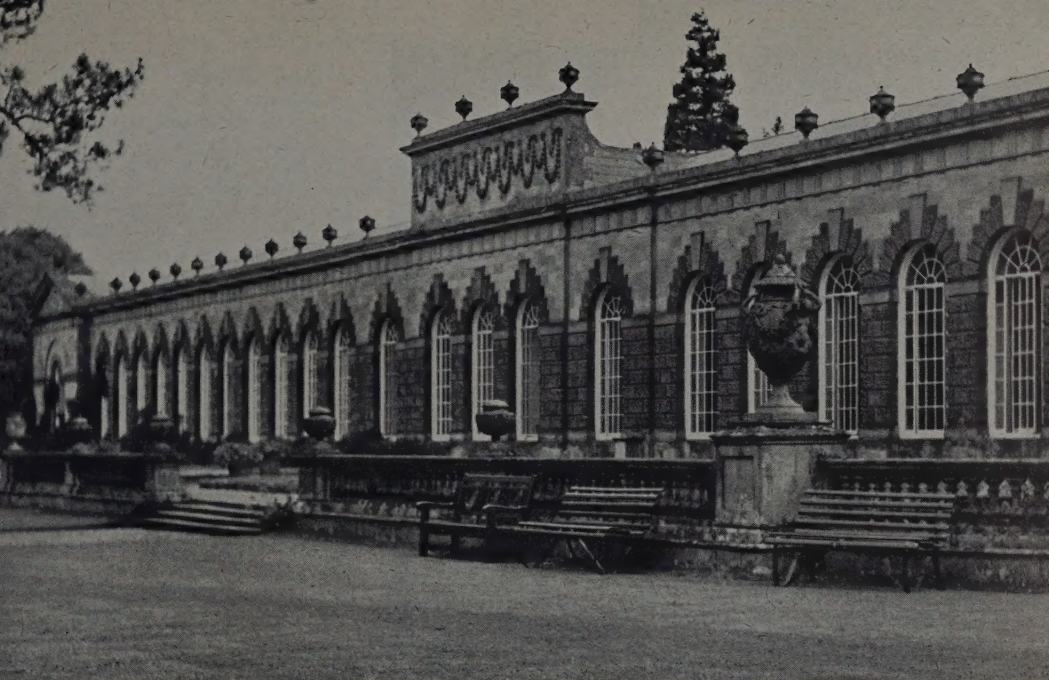


By courtesy of the Steel Company of Wales Ltd

Today the resources of Glamorgan have been developed to a degree that would have surprised even the far-sighted Talbot family who made the docks at Port Talbot a century ago. (Above) Buildings of the vast new Steel Company of Wales in which (below) "everything happens . . . almost at the touch of a button"

By courtesy of the Steel Company of Wales Ltd





Miss M. Wight

After the Dissolution Margam Abbey passed to the Mansell family, one of whom in the 17th century was a pioneer in the use of local coal for glass-making. (Above) The splendid orangery which they built in 1787. (Below) Margam's ruined Chapter House, once one of the glories of Cistercian architecture

W. A. Call





Miss M. Wight

The Bodvoc Stone which dates from about A.D. 550. It was found on Mynydd Margam. Memorial stones of this kind are the most important relics of the period immediately following the departure of the Romans from South Wales

It was a descendant of the Mansells who in 1830 built the modern mansion in Tudor style which is justly dignified with the name Margam Castle. Its great tower is easily visible from the main road while the two grand façades broken by bays smile quietly at grounds which are seven miles round.

Many rare shrubs and trees are grown

in these grounds. They include an Aleppo pine with a height of seventy-three feet and a girth of eleven, believed to be the biggest in the British Isles, a laurel tree more than seventy feet high and one specimen of Himalayan privet rising to thirty-two feet with a girth of more than four feet.

The great pride of Margam grounds, however, the orange and lemon trees, have their own romantic story. Popular tradition has it that these were being sent to the English king by his royal brother in Portugal. The vessel carrying them was wrecked on the neighbouring coast. Mansell, as lord of the manor, claimed the cargo and the king had to go without.

Whether the story is true or not matters little. What is important is that these trees were the reason for building at Margam what is reputed to be the largest orangery in the world—327 feet long. It is curious that so many writers dismiss the orangery with a careless shrug. It is surely the finest piece of Georgian architecture in Wales. Its unknown architect has succeeded in leaving a memorial such as we might expect in some royal pleasure gardens furnished in an age of grace and beauty. Soldiers billeted in it during the last war may have found it cavernous. Those who contemplate it, however, with a less jaundiced eye cannot but be led to think with regret of the days when architects could imagine as well as act, when 'utilitarian' was a word of condemnation or at least apology.

"There was a singular mixture of nature and art, of the voices of birds and the clanking of chains, of the mists of heaven and the smoke of furnaces . . ." wrote

George Borrow of this area around Aberavon. His successor might comment that the same thing is true today, only more so. "Singular mixture" it undoubtedly is. The British Isles, with all their diversity of interest, can fascinate anyone. Here we have a microcosm of the whole. And, as any Glamorgan man will say, long may it remain so.